THE STEAM LAUNDRY.

By C. A. ROYCE,

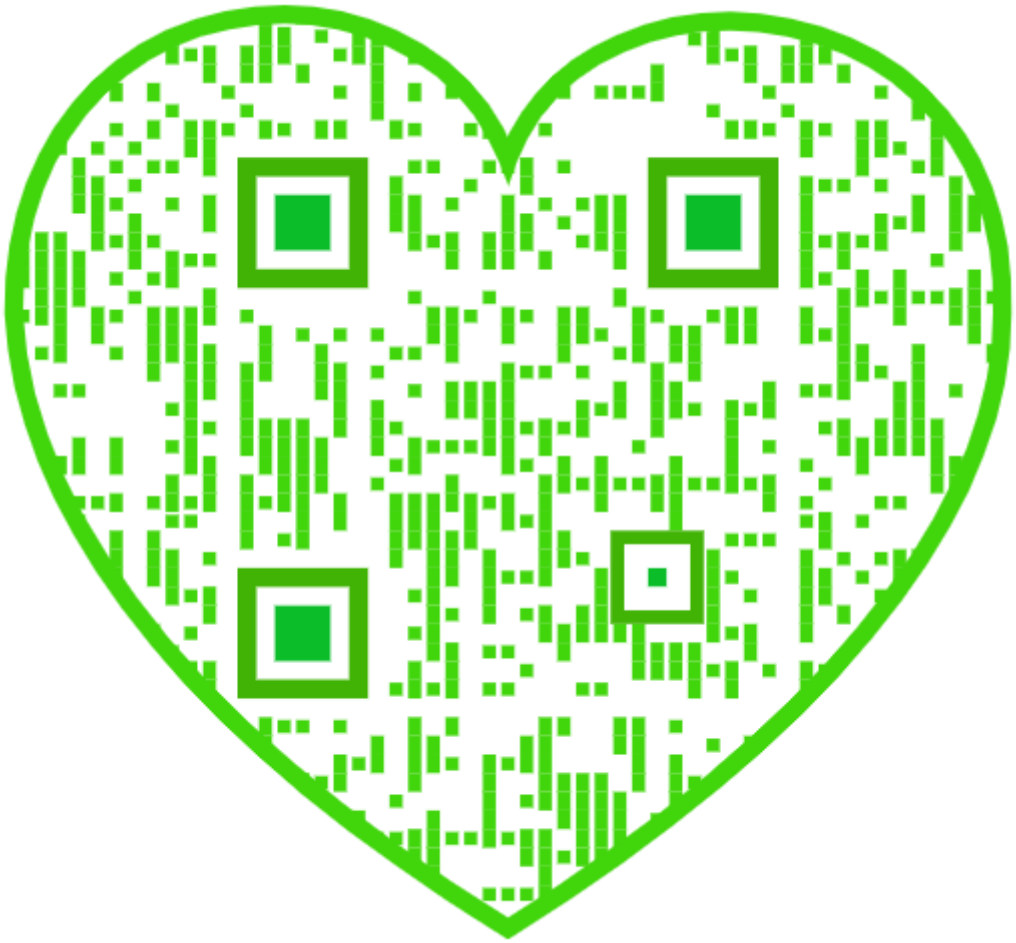
AND

ESSAYS

READ AT THE

LAUNDRYMEN'S NATIONAL

CONVENTIONS.



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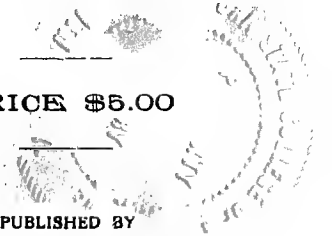

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PREFACE.

In the early days of the Laundry business the men who embarked in it, those who to-day are known as the veterans, were, for the most part, men whose business training had been in other directions. In other words these men were obliged to learn their chosen business in the dear school of experience. This condition describes the position in which the author found himself some seventeen years ago.

No more need be said to show that there has been, and is now, a need of some work upon the Laundry business, to which the novice, as well as the experienced Laundryman, may turn for help in time of trouble. While the author does not wish to lay claim to an exhaustive knowledge of all the intricacies of his chosen business, he has snatched a few leisure moments from a busy life, to compile the following pages, and he presents them to the Laundry trade in the hope that they will, in a measure at least, supply a long felt want.

THE AUTHOR.

Location.

When one decides to engage in business, the first point for consideration is location. By location we do not mean such a street, or such a number upon such a street, but we use the term location in its fullest sense. The manner in which this question is usually settled is something as follows: Mr. Smith is conducting a successful laundry business in the town of Breakwater. Mr. Jones (for the time being a gentleman of leisure) takes note of Smith's success and says, "Smith is making money, why should not I?" Straightway he buys his outfit and planks himself down as close to Smith as possible. Thus we have overproduction in laundries, so to speak. If, for instance, the business was the manufacture of some article of universal utility, with the whole world for a market, this plan of grouping competition would not be objectionable; but alas! such is not the case. The patronage of the laundry is and must be in the main, purely local. Hence, if Jones succeeds, he must do so at the expense of Smith, that is, providing the market is not amply large enough for both, and the success of the one is cramped by the success of the other.

While there is no law compelling Jones to have regard for the welfare of Smith, and while he may in a measure, meet with success, yet he has made a mistake, for we may readily suppose that he could have found a location where his success would have been greater, with less outlay of time, strength and money.

Thus we say, in seeking a location, go where the demand is superabundant and the supply is lacking or incomplete; in short, go where the laundry business is not overdone. Possibly the time may come when to find

such a place will be difficult, but to-day there are hundreds of communities where there are no laundries, and where the conditions for success are ample.

Having found the place, the second point is where to locate in that place. Every city or town has its business center or centers. Upon general principles it is advisable to locate as near such points as possible. Quite frequently, however, it is well nigh impossible to get very near. Either there is no desirable building for rent, or the rent is too high in price, or if a building is to be erected there is no land available; so we come to the only advice of value, "Do the best you can." If you must go far away from the business centers, there is simply more depending upon your business push and sagacity. A good location is not absolutely essential to success. It is simply a help. We may be in danger of contradicting ourselves when we say that there are some reasons why a location in a business center is a detriment. A good location benefits your office, it may be anything but a benefit to your "shop." To do clean and satisfactory work you must have clean and wholesome rooms, and it is very difficult to have clean rooms in the midst of dirty surroundings. Where else will you find dust more plentiful and more determined to come in to make your life miserable than amid the "Hives of Industry." We see, then, that a "central" location has its drawbacks. With this view of the case we may venture to say it is better to seek seclusion in the suburbs, "far from the mad'ning crowd," in the midst of fragrant meadows, or by the side of a tranquil river. In the latter case you could sink a well near the bank, the water would leach through and the question of pure water would be solved. The disadvantages are obvious, but may they not be overcome? For instance, an office alone might be secured in the business section. Again, very large dependence will be necessary upon your teams wherever you are, and the suburban location will make

teams and drivers imperative, but will not freedom from dust and dirt, and the comparative ease with which you may do good work, more than compensate for the disadvantages? This is the question which you must solve.

Building.

Location having secured sufficient of our attention, the question of the Building, or the rooms, must next be considered. We assume in the first place that the reader who intends to embark in the laundry trade, intends to do so for good and all, or at least until his fortune is made. The first year he says, "I will cover expenses." The second, "I will make one thousand dollars." The third, "I will make it five thousand dollars," and so on. In short, he proposes to build for the future. What should we then say of a man who would start business in a seven by nine room and move to larger quarters from time to time as the exigencies of business demanded. If you have followed our advice as to location and then have not sufficient faith in your business abilities to secure rooms that will allow you to grow, you would best stop right where you are. You won't succeed, or if you do it will be the rankest luck and no credit to you, and when the time comes that a better man comes into competition with you, a man with energy, push and *faith*, you will very soon learn just how smart you are.

As has been before said, clean surroundings are essential. So also are good air and plenty of God's sunshine. Never start business in a damp, dark, musty hole, only fit for a toad or a tramp.

But after all the sagacious man, the man who is working for the future, will let no small obstacle stand in the way of putting up a building of his own. In no other way can he be perfectly independent and have just what

he wants. When you get to this point do not make any mistake. You do not want to erect a building which is a model of convenience? and then, after it is completed, be constantly reminded that in many ways it might be improved. What will you do? Well, unless you are very sure of your ability to lay out a laundry building as it should be, your best plan will be to secure the services of some good architect or builder. Lay out carefully your ideas and then go with him to visit other establishments. Keep your eyes open and your thinking cap on. While you may find no establishment you wish to copy as a whole, you will hardly find one in which there may not be a valuable suggestion. In concluding this part of our subject, we give you the following hints:

First—Be sure to get plenty of light and air. Why light, every one knows. The question of pure air we will treat of later on.

Second—Before starting not only have your floor plans and elevations, but have the place of every machine, table, etc., traced and according to scale. Leave plenty of room to grow, and study carefully. Be sure you are right before you go ahead.

Third—Place your boiler, engine, dry room and machinery of all kinds so as to reduce necessary piping, shafting, pulleys and belting, etc., to the minimum. This is a point you cannot study too carefully. There is great chance for economy here and a corresponding chance for loss.

Fourth—If land is cheap have your laundry all upon one floor. No other plan is so convenient. Arrange to have your work start at a given point and keep going *forward* until done, never turning and going over the same ground twice.

Fifth—When it is necessary to build toward the heavens, run your work to the very top and work down. A wash room upon the top floor, say you? Yes, by all

means; the best place in the world for it. The drainage may easily be arranged so as to avoid all leakage to the the floors below. The numerous smells will pass off into space without annoying you or anyone else. The steam will not permeate the whole building and your work will come back to the office almost by gravity. This idea that the wash room must be in the basement or upon the ground floor is all a mistake. We will make no exception, unless it be that you have but two floors, and one of those the basement. Then perhaps you must use the basement as a wash room.

Sixth—Get your wash room as far from the office as possible. The ordinary wash room oders should never reach the office.

The Office.

The office is the figurehead of the business; hence it demands considerable attention. There are laundry offices where considerable sums of money have been expended in finish and artistic decoration. Doubtless all this is an excellent advertisement, and the laundryman in affluent circumstances may well give free play to his fancy in the embellishment of his office. Plate glass windows, with a free intermingling of stained glass, paneled ceilings, carpeted floor, carved hardwood counters and shelves, silver-plated show cases, glass or wire screens about the desk, etc., etc.; in short a beautiful laundry office is perfectly fit and proper, but hardly a necessity. There are some things, however, that are necessary. The Connecticut laundryman who hung a sign in his office reading, "No one will be allowed to open packages of soiled clothes in this office," was doubtless more nice than wise in his method of accomplishing a certain end. His object was to have his office at all times neat, sweet and clean, so

that the most fastidious person who entered would never see or *smell* anything offensive. This is the right idea. Everyone knows that there must be more or less of a disagreeable nature about a laundry, but everything of such nature should be religiously excluded from the office. A man may look with perfect equanimity upon his own soiled linen, but when he runs up against that of another —unless he be a laundryman—it is with feelings akin to disgust. Therefore, soiled linen must have no place in our office, or at least a very temporary place; remove it as quickly as possible. We see then that while the office need not be extravagant in its fittings, it *must* be neat and clean; add to this such attractiveness as conditions will allow. It seems needless here to speak of office help; it may be said, however, that the man who puts incompetent, impolite, heedless persons in his office, makes a sad mistake. What system shall be followed in the reception and delivery of goods over the counter, is the next question. On all accounts, that of taking the name is preferable. A package of lists should be upon the counter or desk. The customer's *full* name is taken and put upon the list and fastened securely to the bundle. Be very particular in all cases to take the given name or initials, so as to avoid confusion in case of similar names. If the customer demands a check, take the package to the marking room and give him a duplicate list in lieu of a check. If this could always be done, many claims would be avoided. How often it occurs that a man leaves six collars and in some strange manner becomes possessed with the idea that he left seven, etc., etc. The duplicate list prevents such nonsense. It is also a good idea to provide a desk for the use of patrons, always supplied with lists and pencils, so that any customer who desires to make his own list may step to the desk and do so conveniently. Every list should have a coupon. In entering upon the record, number the entries consecutively and place a cor-

responding number upon the coupon, together with the amount of the bill. When the package is given out, remove the coupon. This becomes your cash account, and with them you may check up your record and see that every package is accounted for. This takes considerable time, but is exceedingly satisfactory. Another plan is to give each customer a numbered check. This may include a complete list of the goods left or not, as you prefer. In this plan the customer's name is not necessary (it is always desirable, however). The number is placed upon the laundry list. When the customer calls he presents his check, and you look for the package bearing the corresponding number. If the customer loses his check, then the fact that you also have the name will be a convenience. In such a case the customer should receipt for the goods to avoid a demand for goods when the missing check turns up. In the first system the goods are arranged upon the shelves alphabetically; in the second numerically. Packages should always be placed upon the shelves in good order, and be rearranged as often as necessary. Nothing looks more shiftless than to see a lot of bundles sprawling all over the shelves without any apparent attempt at order. One thing must be insisted upon, and that is prompt and courteous attention to patrons. The customer who is kept waiting needlessly may not express his feelings, but he has them and may decide to go where his wants will be attended to more promptly. Again, a short, thoughtless answer may be as hurtful as incivilty. Prompt and polite attention pays.

Book-Keeping.

The keeping of some sort of books is essential. Just how complete the accounts should be and what system should be followed, must depend upon circumstances. While the larger laundries will find it advisable to employ

book-keepers and keep a very complete and elaborate set of books, the smaller establishments cannot afford the necessary outlay, and must of necessity reduce their system of book-keeping to the point requiring the least possible outlay of time and labor.

Most assuredly every laundry should keep a complete and accurate record book. The reasons are so obvious as to need no explanation here. The record should include the name of the customer in full, the date, the address—in case of delivery, a list of pieces and the amount of the laundry bill. In case the coupon system is used, as noted in another chapter, the book may be checked by the coupons, these coupons showing in the first place the amount of cash received, and in the second place affording a convenient method of accounting for any package that passes through the laundry.

There are various record books prepared and sold by different dealers in laundry supplies, most of which are convenient and all are similar. Probably these books are as cheap and convenient as could be prepared by the laundryman himself. In case the laundryman finds it necessary to do more or less credit business, this record may be arranged to take the place of journal or "blotter." In order to do this it will be necessary to enter the goods that are delivered separate from those that are delivered over the counter. It is assumed that the office business is very largely cash, the accounts coming for the most part from the team business. In case the driver uses a book the various charges may be carried directly to the ledger, but this is not considered the best way. Very often the original entry is called for. The driver's book may not be at hand, while the record always is. The record may be checked so as to get at the charges, either by the driver's book or by coupon.

The author uses a record book properly ruled. All shelf or office lots are entered in black ink, while the

delivery work is entered in red ink. This plan makes the separation between office and delivery work marked, so as to be shown at a glance. An extra column is provided, to be used in extending and footing charges. These extensions are used for the purpose of balancing. This column is necessary only in case of double entry bookkeeping. It may be added that by using this column the necessity of journalizing is largely obviated.

A very convenient ledger for the small credit business may also be obtained of the supply dealers. This ledger is headed with the months of the year, the entries running across the page rather than up and down. It is considered better for laundrymen to purchase these books than to have them made. Hence a more full description of them is unnecessary.

The larger establishments will keep a complete set of books upon the double entry system, having a trial balance every month, and an inventory and complete balance every year.

In no other way can the laundryman have his business so well in hand and not only always know whether his business is profitable or not, but also just how profitable.

Collection and Delivery.

Too much attention can hardly be bestowed upon this branch of the laundry business. What laundryman is there that knows every customer, or does not have many patrons he never sees? These come in contact with the collection and delivery part of the business. Again, what is called the "drop" trade grows smaller year after year, and must be made up by corresponding growth in team business. How important, then, that great care be bestowed upon this part of the business. We need not

particularly emphasize the necessity of neat wagons and harness, good horses and gentlemanly and competent drivers in uniform.

First, in regard to the so-called unique delivery vans, washing machines, wash boilers, etc., mounted upon wheels. Doubtless all these abominations have a certain advertising value (limited by time) and will have their day. A neat covered wagon, nicely painted and lettered and moderately ornamented, is also an advertisement and never loses its value until old and worn out, and for practical purposes is far superior to the device above mentioned. The wagon should not be too heavy. It is a truism that "wagons are cheaper than horses." You have a wagon that just suits you. It wears out and ceases to be what you want. You are able to go to the builder and order a duplicate. Not so with horses. When your honest, faithful equine servant has become broken down and disheartened from dragging a needlessly heavy van at the top of his speed, you sell him for a song to the kindling wood peddler and proceed to get taken in by the horse jockey. If you have a good horse, cherish him as the apple of your eye, and do not take the heart out of him by cruel, hard, abusive work.

The pavements of the city necessitate somewhat heavier wagons than are needed in the country towns, but the heaviness need not be carried to the extreme. If there are horse car lines in your city, have the gears of your wagons the same width as the horse car tracks. Avoid wooden doors in the rear. They very materially increase the draft. A wire door is better every way. There should, with such doors, be a curtain upon the inside, which may be lowered in wet weather. The top should be of wood framework, cloth-covered. The full wood tops are handsome, but increase the weight without corresponding advantages. The wood work may be carried up half way at the sides if desired. The cloth sides and

top should be renewed occasionally, which may be inexpensively done. It is best to fix upon some particular style of wagon that seems to be just what you want. Select some distinctive color or colors and style of lettering, and stick to it year in and year out. If you have twenty wagons, more or less, have them all exactly alike, unless it be that you need a special wagon for some special work to which your ordinary wagon is not adapted. Think it over and see if the idea is not good. Have wagons varnished twice each year. Brass trimmed harness is the best in the long run, easier kept in trim than nickel or silver plate. Rubber is good, but not showy enough. For uniform, in summer, white cap, coat (brass buttons), navy blue pants; in winter navy blue throughout. As your driver must buy clothing anyway, he should bear his share of the cost of the uniform.

The collection and delivery should be so systematized as to leave little depending upon the memory of the driver, and also so that if the driver is sick or leaves your employ some one else may step into his place. We know of no better system than the following: A book is kept in which is entered the names of every customer whose work is usually called for. The names may be arranged alphabetically or according to streets or trips. The day upon which the call is made is entered opposite the name and other particulars deemed advisable, such as mark, style of finish, etc., etc. Next we will provide pieces of card board, say 2½ by 4 inches. These may be printed in blank if desired. A card will be made for each customer, an exact copy of the entry upon the book. These cards are arranged in packages according to trip and day and given to the driver, who proceeds to make his calls according to the cards. Upon receiving a package the proper card is tied (or secured in some way) to it. When the package comes to the marker the list is made in

accordance with the directions upon the card. The cards are then taken to the office, checked off by the book to see that all calls are made, and rearranged in packages as before for use the following week. In case any cards are lost or destroyed, the book shows the fact and new ones are made. If the driver fails to return a package for each card, it is quickly discovered and the reason therefor obtained. In case of transient calls by telephone or postal a separate book is kept. Orders are entered as soon as received, a card is made and given to the driver for immediate attention. These cards should be also checked upon return. It frequently happens that some man leaves a package at the laundry with orders to be delivered. It should be the duty of the driver to secure, if possible, such an one as a regular patron. A good way to accomplish this is to enter the names of all such parties upon the book and make cards exactly the same as if an order for regular call had been received. If after one or two calls are made no more work is received, the order may be erased and the card destroyed. This work of record and checking should be the especial duty of some one and the drivers should not be allowed to meddle with it. In these days of sharp competition a great deal depends upon the driver. If he is a good hand to solicit work in addition to his regular duties he is able in this way to increase the value of his services materially. It is an excellent idea to stimulate the driver to such work by the payment of a moderate commission upon all new trade so secured. Some drivers are what we call bundle stealers. That is to say whenever and wherever they see a laundry package they grab it without regard to the rights or wishes of others, including the owner. Often this kind of meanness is done by direct order of the employer. Such practice is not only dishonest but poor business policy. Go for all you can legitimately, and leave sharp practice to your competitors.

The system in many laundries is to have route books upon which are entered the names of the customers upon the several routes. These books are given to the driver and his work checked upon his return from any given route. The advantages of the card system over this plan may be seen at a glance.

Coming now to the delivery; there are various plans in vogue. Absolutely the best is the system of charging up to the driver each package he takes out and making him responsible for the same. Of course, in case more or less credit is given, the system needs modification. In such case all packages are entered upon a book. Those that are usually left without pay are designated in some convenient way. All other goods must be accounted for in cash or returned bundles. In case of any package neither returned or paid for, the amount of the bill is charged to the driver, who is given a suitable time in which to make his return for the same, after which, if the cash is not forthcoming the amount is deducted from his pay. Another plan is to have upon the delivery book a blank space for the signature of the owner, to be filled out upon receipt of the goods. The so-called coupon system consists in having a coupon attached to each list, bearing a number and amount of the laundry bill, the same corresponding to the entry upon your record book. Upon delivery the driver removes the coupon and returns it to the office, the sum of the coupons being the amount of cash due from the driver. The record is then checked by the coupons returned. This makes a very convenient system, but it is faulty in several important points. The same will readily occur to the reader without particular mention.

Drivers.

Upon the whole, there is no employe of the laundry who from time to time causes so much worry and oftentimes loss, as the driver. He occupies a position of peculiar responsibility, standing, as he does, between the proprietor and the patron. From the very necessities of the case the laundryman is very greatly dependent upon the driver. Many customers are strangers to the proprietor, while they are well known to the driver. Hence unprincipled men upon our teams are quite apt to consider the custom of the laundry as, in a measure their stock in trade.

"I control so many customers," says the driver, "hence you must pay me accordingly." Or he may say to your competitor, "I control so much trade, pay me my price and I will hand it over to you.

This sort of thing happens frequently. What are we going to do about it? In the first place, we must be extremely careful whom we employ as a driver. Surely the conditions in the labor market are not such that we must take what we can get and be content. Usually honorable men are obtainable, and a strictly honorable man will not steal the trade of an old employer and hand it over to the new. We may also add, the new employer, if honorable, will not stoop to obtain patronage in that way. But be as careful as we may, there are weak spots in our system of hiring drivers.

In many lines of trade the employe who is hired to fill a position of responsibility must give bonds to render honest and faithful service. Why may not drivers be hired in the same way, the contract being for a specified time, neither to withdraw from the contract without a specified notice being given? Then cover all the other weak spots in the driver system and have the contract secured by a bond of indemnity in case of violation.

The Marking Room.

We sometimes say that the marking is the key to the situation. If the work in this room is correctly done, sorting out becomes an easy matter and mistakes will be reduced to the minimum. Correct work in the marking room means: correct counting and entering, proper division of lots, and neat and legible marks upon the goods. In many laundries almost any one is considered good enough to work in the marking room, when the packages come in they are hurried to the wash room as rapidly as possible, and the result at the end is confusion. It is true that as long as goods remain in the marking room they are making no progress, and this should not be allowed, yet ample time should be taken at this point; hurry here makes delay elsewhere.

The first thing to consider is the room and its arrangement. This must always depend upon circumstances. The custom of doing the marking in the office is unwise; if no other place is available there should be a curtained recess, at least, where the work may be done, away from the "vulgar gaze" of the public. It is, of course, a convenience to have the marking room adjacent to the office, for in some cases office help are expected to do at least a portion, if not all the marking, but in large laundries, where each person is engaged for some special and distinct line of duty, proximity to the office is not essential. The marking room, however, should be so placed as to insure convenience in passing the goods on to the wash room. If the wash room is below, a shute may be constructed through which the goods are passed at once after marking. If upon the same floor, suitable receptacles should be provided in which to place the work. Boxes and baskets take up room and are not wholly convenient, canvas bags are better. Suitable holders may be con-

structed to hold the bag in an upright position, with the mouth wide open, when a bag is full it is easily conveyed to the wash room and another takes its place. The marking room should be light and roomy. The markers should stand. We know of no better arrangement than tables of suitable height provided with bins underneath for the reception of waste paper. Baskets or bags may be used in place of bins. We know of but one way to insure absolutely correct counting and entering, which is as follows: The package is opened and its contents sorted, shirts in one place, collars in another, socks in another, and so on, the goods are now counted and entered upon the list, always beginning at the head of the list and counting and entering in regular order as the articles are named upon the list; the list is then footed to get the total number of miscellaneous pieces, and the goods are counted in a lump, if the two totals agree, your work is proven to be correct; if there is a discrepancy it will show and you are able to correct your work before it passes out of your hands. All this takes time, but in the end it pays. Now comes the marking. Each piece is examined to see if it is properly marked, such as are marked are thrown at once into the bags, while the pieces to be marked are put together until the whole package has been examined. Then the marking takes place. This idea of doing but one thing at a time is scouted in many laundries, sometimes the counting and examination for marks is done at the same time and the idea of proving the work is never thought of, there are hundreds of markers so expert that they will do the work in this way and so correctly that it is simply a waste of time to prove the work, yet generally speaking, it is best to do so. The question now arises: What system of marks is the best? Systems are numerous, some simple and some complex. It would be a waste of time and space to go into details in this matter. With some the full name is

used, others use initials only, others combine numbers and letters, while others use numbers exclusively. Sometimes, in the case of numbers, they are used in regular numerical order, the first package received is marked 1, the second 2, and so on. It is evident that where a regular system is insisted upon the work becomes much more arduous, and goods soon become covered with a multitude of marks. The best system that has come to our notice, except the most common, of which we shall speak later on, consists in marking upon each customer's goods a number prefixed by the initial of the Christian name, for instance, Anderson's goods would be marked A 160, Brown's B 190, Smith's S 200, etc., etc. In sorting out, pigeon holes are provided and the pieces are first sorted by letter, the A's are put in one place, B's in another, etc. Now the sorter takes the list. Coming to Anderson's list, she knows his goods will be found in the A box, accordingly she sorts out all the goods marked A 160, which is likely to complete the list. The same routine is followed by Brown's and Smith's goods. It is evident that there is value in this system, when we come to the sorting, the sorter has nothing to remember but the letters of the alphabet, and the preliminary sorting may be done very rapidly. Again, if the lots are reasonably small, it takes but very little time for the one with the list to go to the B box and sort out Brown's goods. These are the merits of the system, now for the demerits. It is obvious that such a system has no value unless it is strictly adhered to, there must be no exception, Brown's goods may come in with every piece neatly marked 190, but we must go through and attach B to every piece. Thus we see that this system must of necessity entail a great deal of extra work in the marking room.

A modification of this system may be followed even if the letters are not used as above provided. We will suppose that in marking such marks are used as are upon

the goods when they came in to the marking room without the addition of the first letter of the name; in this case some goods would be marked with numbers and others with letters. Now we will provide pigeon holes about twelve inches square by twenty inches deep. Unless the lots are unusually large, sixty pigeon holes will be sufficient. We will number these pigeon holes something as follows: 1—5, 6—10, 11—15, 16—20, 21—50, 51—100, 101—150, etc., etc., up to, say 5,000. There beginning with letters we will mark the boxes A-B, C-D, E-F, etc., etc. In sorting anything marked any number from one to five goes into the first box, from six to ten into the second box, and so on. All goods marked 5,000 or upwards going into the 5,000 box. Now we take our lists and go to the boxes and select out the goods as under the preceding system. It will be readily seen that after a sorter becomes accustomed to the boxes, which will be done quickly, the sorting may be done very rapidly, probably five times as quickly as upon the table. In these instructions it is assumed that the shirts and other articles will be sorted in duplicate boxes or pigeon holes, but if desired the boxes may be made larger and one set of boxes used for all sorting.

It is seldom nowadays that a package comes to the laundry which does not have in it one or more pieces bearing a mark; quite frequently all pieces are marked, is it not as well, then, instead of having a regular system of marks, to simply use the marks upon the goods? This saves very much time, and if your lots are small, the danger of getting in two or more lots of goods under the same mark is slight. We have always used this system and never have had any desire to change.

The majority of people do not object to an indelible ink mark upon their goods, providing the marks are not too numerous and are neatly put on, hence it follows that markers should be capable of doing the work neatly. The

figures may be perfectly legible without being large. Care should be used in placing the marks where they will not show when the goods are in use. Especial care is necessary in the marking of handkerchiefs and ladies' fine wearing apparel. Oftentimes goods are received which cannot be marked with a pen. In such cases nothing is more convenient than the marking tags made for this purpose. If you desire, however, strips of cloth may be sewed upon the goods, or brass checks may be used. The division of the work into lots properly comes under this head. The smaller the lots the easier handled and the more expeditiously the work may be turned out. Various plans may be followed. One plan is to make a certain number of shirts (say 100) with the other pieces that come with them a lot. Another plan is to go according to the hour of receipt of goods. For instance, all goods coming in between 7 o'clock and 9 o'clock become one lot, between 9 o'clock and 12 o'clock another, and so on through each day. The advantage of this plan is the fact that when a customer leaves a package he may be told just when it will be ready for delivery. Another plan is to divide the lots according to the team routes. It does not make so very much difference which plan is followed, providing the lots are not so large as to be unwieldly. The nearer together the several pieces of a man's lot come through ready for sorting, the less time is required for the sorting and the more promptly the bundles of clean work may be gotten ready. Therefore it is an excellent idea to bunch the collars and cuffs, *i. e.*, the collars and cuffs of each customer are tied by themselves. For this purpose a coarse cotton twine is used which is drawn through the button hole (with collars the back button hole should be used) and loosely tied. No more than twelve to fifteen pieces should ever be included in one bunch, so if a certain man has more than that number his lot is divided into two or more bunches, and in case of

small lots, two or more may be added together. The strings are not cut until the collars come to the starch table, and after that a very little care will serve to keep the various bunches well separated. The objection is sometimes urged that this plan of bunching tends to tear out the button holes. This may be true in the case of old goods, but if the stringing is properly done there will be very little trouble of this kind, and it is evident that the saving in time is considerable, while the bundling may begin as soon as the ironer starts.

Sorting and Bundling.

The method of sorting out depends very much upon the method of marking in. In some cases tables only are used, while others prefer the pigeon holes. This is an unimportant matter. If pigeon holes are used, the lists are sorted numerically or alphabetically and suspended over the pigeon holes in regular order. The sorting should follow the ironing as closely as possible. The more quickly the goods are bundled after ironing the better. Make your bundles neat and compact, using care not to get the goods out of shape in bundling. Nothing but the best of manilla paper should be used.

Soap.

It is a question whether or not it pays the laundryman to be his own soap maker. In the case of the small laundry it probably does not, but the large consumer may find a saving in this way, not as large, however, as many suppose. In these days of sharp competition the soap maker looks rather for large sales than large margins. "Quick sales and small profits" is of necessity the watchword where competition holds sway. The soap maker

with his extensive plant and large output can of course produce his commodity cheaper than the small manufacturer or laundryman. Hence the chance for saving is not so large as formerly.

What is soap? We will quote from Youman: "Oils and fats are saline bodies, consisting of fatty acids combined with a common base, *glycerin*. When other bases, as potash or soda, are made to act upon the fatty substances, they expel the glycerin and take its place, uniting with the acids and forming soap. The consistency of soap depends chiefly upon the alkali. Hard soaps are made of soda, or a mixture of soda and potash, while in soft soaps potash alone is used. The consistency of the oil or fat also influences the quality of hardness, those containing a large proportion of stearin and margarin, like tallow, form hard soaps, while those in which oleine predominates produce soft soap. Soap has a powerful affinity for water and may retain from fifty to sixty per cent. of it and still continue solid. As water has no affinity for oily substances, it will not dissolve them, it can only remove them from surfaces to which they adhere. The alkali of the soap acts upon the oil; partially saponifies it, and renders it freely miscible in water, so as to be easily removed. Alkalies not only act upon greasy matters, but dissolve all organic substances. In the case of soap, the solvent power of the alkali is in part neutralized, thus preserving both the texture and color of fabric exposed to its action."

There are two common methods of making soap, *i. e.*, the boiling process and the cold process. It is sometimes claimed that the former is the only perfect process. This is not true. Perfect saponification is all that can be accomplished and this is done by the cold process perfectly. As in the cold process less apparatus is needed and less depends upon skillful manipulation, this is the proper process for laundrymen to use. Before giving

formula for the fabrication of soap we may profitably pause for a moment and consider the merits of the various alkalies and greases commonly used. Potash being a vegetable alkali is the natural detergent for all vegetable fabrics. Wool, also, containing a percentage of potash, the same fact holds good in the cleansing of woolens. Goods washed in properly prepared potash soaps tend to be soft and pliable. Soda being a mineral substance the reverse is true. Yet a properly prepared soda soap will, with proper handling, produce as good results as can be obtained with the potash. We may say that the reason of the common use of soda may be found in economy and convenience. The most satisfactory and economical results may be obtained by the use of a combination of potash and soda in about the proportion of one part of the former to three parts of the latter. The somewhat common idea that satisfactory wool scouring cannot be perfectly done with soda soap is a mistaken notion. While the potash soap is preferable, it is not necessary, in fact, soda soaps will be found more generally used by woolen manufacturers than any other.

Very little need be said upon the subject of fats. Pure tallow long since demonstrated its right to first place in value for use in soap making. This is especially true of soap for laundry use. In some cases cocoanut oil is combined with the tallow. The result is a soap that lathers very freely. This is the only advantage in using the oil. We will now follow with various formulæ for the fabrication of soap. Before doing so, we note that the temperature at which the fat and the alkali are mixed is an important point. As considerable heat is produced by dissolving the alkali in water, it is always best to prepare this solution some little time before use. Then if necessary it may be readily heated to the desired temperature. Any formula given may be varied to produce a larger or smaller batch, providing the proportions are followed.

Formula No. 1:

100 lbs. of tallow.
15 lbs. pure caustic soda.
5 lbs. pure caustic potash.

The soda and potash are dissolved in sufficient water to make the total weight about 50 lbs. This alkali solution should test 38° (Baume). If less, add more soda or potash. Having melted the tallow, let it cool to about 110° of heat. Bring the alkali to the same temperature, when the two are poured together and thoroughly mixed. The mixture is then poured into tubs or vats, covered up with cloth, kept in a warm place for two or three days, when saponification will have taken place.

Formula No. 2:

Dissolve 20 lbs. of pure caustic potash in 20 lbs. of water. Melt 40 lbs. of tallow, have the alkali at about 80° of heat and the tallow at 110° to 120°, mix and set away as before. Four to six days are required for saponification.

Formula No. 3:

(A mild soap, excellent for woolens.)
20 lbs. caustic potash.
80 lbs. tallow.

Exactly the same method is followed as before.

Formula No. 4:

10 lbs. pure caustic soda.
40 lbs. water.
65 lbs. tallow.

Method of mixing same as before.

In soap making, purity of material is absolutely essential. The caustic soda used should be 98 per cent. and the tallow free from salt and other impurities. As for apparatus, it may be of the most crude, such as ordinary

tubs and barrels, but it is always best to have especial apparatus. The tallow should be melted in a jacketed kettle, the alkali in earthen pots. The cooling or mixing vats should be of galvanized iron. A hydrometer and thermometer are desirable, and the best thing for the mixing is a soap maker's crutch.

Soft Soap from Chips.

The neutral chip soap of commerce is more generally used by laundrymen than any other. This soap, if pure and of best quality, is composed of tallow and an alkali of about one part caustic potash to three parts caustic soda. Sometimes a small percentage of palm oil or cocoanut oil is used also. These oils do not add anything to the value of the soap. In fact, if any considerable portion of these oils is used they detract from its value.

For convenience and economy these soaps are melted and made into soft or jelly soaps by the addition of water and an alkali. The alkalies are either caustic, potash, caustic soda, carbonate of soda, or sal soda.

For fifty gallons of soft soap we would use about twenty-five pounds of the chips, about two pounds of caustic potash or the same amount of caustic soda, or five pounds of the carbonate of soda, or ten pounds of the sal soda.

The *modus operandi* is as follows: Dissolve the alkali in say five gallons of water. Pour in the soap and draw in sufficient water to cover it. Turn on steam and boil slowly until the whole seems to be melted. Shut off steam and start in cold water. Stir continually while filling.

The best thing for stirring is a soap maker's crutch. This may be made of wood or metal. If the latter, it may be made as follows:

To the center of a flat piece of steel, copper or brass, cut in oval form, say six by four inches, an upright handle, say one-half inch in diameter, is brazed. The handle should be of sufficient length to make the stirring convenient.

Starch.

Starch is very common in the vegetable kingdom. That procured from corn or wheat is commonly used for laundry purposes. Starch is insoluble in water. It is, however, composed of minute grains, if heated in water to 140°, these grains burst or swell up and produce a jelly-like mass. Hence the necessity of cooking.

Starch is commonly produced from the grain (corn or wheat) by one of two processes: The chemical process (so called) or the unchemicalled. The starch commonly sold by the grocer is of the former process, but for laundry purposes the latter has been found preferable. It usually has a slight acidity, hence does not conflict with the use of aniline colors, while with the unchemicalled process the opposite is true.

There is a difference of opinion as to the relative merits of wheat and corn starch. The latter has the merit of cheapness, costing generally about one-half as much as wheat starch. Where stiffness alone is sought after, the corn starch will be the most satisfactory, while for the very best results wheat starch is without doubt superior. This applies to color, finish and flexibility. The latter quality is very desirable and is exceedingly difficult to obtain with corn starch, while with wheat it comes naturally.

There is also a difference of opinion as to the time starch should be boiled. We have seen that the grains swell and burst at 140°. Hence, as the boiling point is 212°, it would seem that a very slight boiling would suf-

fice. This is undoubtedly true, yet a longer boiling can do no harm, and it also increases the strength of the mixture by evaporation. There need be no fear, however, of using starch that has not been boiled to exceed ten minutes,

The common plan of cooking starch is to mix in lukewarm water to about the consistency of cream and then pour into boiling water. This plan works satisfactorily if the pouring is done slowly, and is carefully stirred in. Unless considerable care is taken the mass is likely to be lumpy. The best plan is to heat the full amount of water to about 80°, put in the starch and mix thoroughly, turn on steam and keep stirring until it begins to boil.

As to the relative merits of live steam turned into the starch or the use of a jacketed kettle little need be said. The former is satisfactory providing care is taken to remove the condensation before the steam enters the starch. Usually the kettle will be found the most satisfactory.

The next question is, what shall be used for the gloss. A great many different things are used, white wax, Japanese wax, spermaceti, paraffine, tallow, lard, borax, combinations of borax and gum arabic, combinations of glue, glycerine and oxide of zinc. These are a few of the many. The most convenient of all is kerosene oil. Where this is used the odor is quite strong before the goods are dry. After drying it is not noticeable. It gives a very pretty finish, the gloss depending upon the amount used. Try kerosene oil.

As to the amount of starch to use per gallon of water, no invariable rule is possible. Starches vary in strength, hence the proper amount to use of any given starch must be determined by experiment. Approximately we may say the proper amount will be from three-fourths of a pound to one pound of starch to each gallon of water.

Nowadays starching is so universally done by machinery that rules for the use of starch are needless. We may

say, however, that trouble often comes from the water being imperfectly extracted from the goods. See that the wringing is perfectly done. In case the centrifugal moves at the rate of 1,200 times per minute, shirts, collars and cuffs, and other starched goods should be wrung at least ten minutes.

To test the comparative strength of different starches, cook of each a small amount, using the exact weight of water and starch in each case and the same length of time in cooking. Pour into common bowls. In the meantime prepare small pieces of tin of about one-half the diameter of the bowl. When the starch has become cold (thickened), place a tin upon the top of each and ascertain the weight the starch will sustain by placing small weights upon the pieces of tin until it begins to sink into the starch. Another test and generally used by buyers: Place a small lump of starch upon the tongue and let it dissolve gradually in the moisture of the mouth. A weak starch will dissolve away very quickly, while a strong starch will adhere to the tongue for some little time.

NOTE.

The necessity of having pure water for best results in starch making is perhaps not fully understood. The purer the water the clearer the starch and the more satisfactory the work done. Water that looks clear to the unaided eye may be very impure, and oftentimes filtered water, while having no impurities of any account in suspension, may retain enough of "poor color" to detract from the quality of your work The best agent to use for the clearing of water is alum. The amount necessary depends somewhat upon the quality of water to be treated. One ounce to 30 gallons of water will probably be sufficient in any case. Suitable tanks should be provided so that the water may be prepared in advance of the time of use. As a test, on Saturday draw into a clean barrel sufficient water for use in starch making the following Monday. Stir in the alum, and on Monday use this water exclusively. Always strain your starch through cloth before use.

Water.

Of the importance of pure water in the laundry little need be said; it is obvious to all. Water is a compound of eight parts, by weight, of oxygen to one of hydrogen. Water evaporates at all temperatures, boils at 212°, and freezes at 32°; a gallon of water weighs ten pounds. Water is perfectly neutral; its perfect neutrality enables it to take on the properties of other substances. The solvent power is variable upon different substances and at different temperatures. Heat increases the solvent power of water (generally). As water dissolves a little of nearly every substance with which it comes in contact, it is never found perfectly pure in nature. Rain water is the purest that nature produces, but becomes very quickly contaminated, except under tne most favorable conditions. The mineral impurities of well and spring water are, for the most part, lime, magnesia, soda, and oxide of iron. The most universal ingredients are carbonate and sulphate of lime. A single grain of sulphate of lime will convert 2,000 gallons of soft into hard water. Soap put into hard water will not dissolve, but curdles or is decomposed, and a new soap is formed which rises to the surface in a greasy scum. This is what we generally designate as lime curd. The organic impurities of water are too numerous to mention. Usually water thus impure may be rendered sufficiently pure for laundry use by filteration and coagulation. The latter is usually accomplished by the use of alum. This method requires extreme care, as the alum tends to make the water hard. Boiling precipitates carbonate of lime, and will also, to some extent, precipitate sulphate of lime. Water containing carbonate of lime is sometimes designated as temporarily hard, that containing the sulphate as permanently hard.

From the foregoing we see that the water problem is not so simple as one would naturally suppose. While, perhaps, in many places the water approximates purity so closely as to require no special attention in the great majority of cases, it should receive the most careful study. Water that is perfectly clean and beautiful to look upon may be so filled with lime as to be totally unfit for laundry use, while water apparently soft and good may contain some impurity which troubles the laundryman while he looks in vain for the source of his trouble and gropes in the dark vainly for a remedy. The old recipe for cooking a rabbit began as follows: "First catch your rabbit." So we should say to laundrymen: First understand your water. We might fill pages with various theories for the testing and purification of water; but, after all, the wisest plan for each to follow is to obtain a chemical analysis of the water he must use. After that there is no working in the dark. The malady is clearly fixed. The remedy needs only to be applied.

In the great majority of cases, even when to appearance the water is clear and good, some system of filteration is at least desirable. There is no difficulty about filteration. Any one may construct a filter which will metamorphose water of the mud puddle to water as clear as flows in the mountain stream. The trouble lies in constructing a filter that may be readily cleaned. A filtering bed that cannot be frequently washed and purified soon becomes an abomination; hence it is hardly worth while to experiment with home-made apparatus. We know of no system so complete and convenient as the Hyatt system. In this system, by a simple manipulation of valves, the filtering material is thrown entirely out of the filter and is washed and then settles back into place, receiving a second wash while in transit. It is unnecessary to say that the result is thorough and satisfactory; in fact the same material, after years of use, seems as effective as at

the start. Very many filtering systems depend for their efficacy upon what is called the reverse current wash. While this is without doubt, in a measure, effective, no system is perfect that does not permit of the whole filtering material being quickly removed. This is only accomplished in the Hyatt system, the time required being very slight. It is wrong to suppose that the Hyatt can only be cleansed by this throwing out of the material; the reverse current wash may also be used. Hence this system supplies two methods of cleansing, while others depend upon the reverse current alone.

Coming now to the softening of water, here again the chemical analysis is the first step to be taken. This not only reveals the cause of the hardness, but enables you exactly to determine what purifying agent is needed and the amount of the same. The usual method of softening water is by the use of caustic soda, this being both effective and economical. Water should always be softened upon a large scale. Let us suppose you are pumping your water from an artesian well, which is hard from the presence of lime. You will supply yourself with two or more tanks, the number and capacity depending upon the amount of water used. Your pipes and valves will be so arranged that you can pump into either and draw from either at will. Your analysis enables you to ascertain the exact amount of soda per gallon of water required. Your number one tank holds, we will say, 1,000 gallons of water, and, therefore, when full, you introduce the exact amount of soda necessary. Precipitation takes place very quickly, and you can commence using from this tank. In the meantime you turn your supply into tank number two, which is filled and treated while the water in number one is being used. In following this system there is no delay. The water is always ready when wanted, and there may be an exactness about your work that is certainly desirable. Of course you

can throw caustic soda into your tanks and washing machines haphazard if you so desire, but such a plan is, to say the least, faulty. Usually auxilliary tanks are provided, the softening tanks being used for that purpose alone. The object of this is to enable you to heat one or more tanks of water for immediate use, thereby saving the expense of live steam.

When water is hard from carbonate of lime alone the lime system of softening is commonly used. In this case a certain amount of lime is held in solution with carbonic acid. If we add more lime the acid refuses to take it up and precipitation takes place. It is evident that in following this system there must be exactness, else a portion of the lime will remain in the water and the last condition will be worse than the first. In using lime, exactly the same *modus operandi* may be followed as with the use of soda, but frequent tests are necessary to make sure that the precipitation is being properly done. Upon the whole, the caustic soda system of softening water is considered preferable for laundry purposes, providing the hardness comes from the presence of lime alone.

It may be added that boiling will sometimes soften water. In this case the lime rises to the top in the form of scum. We may pump our water through a heater which is sufficiently large and effective to raise the water to or above the boiling point (212°). It is then conveyed to tanks and for use is passed through a filter.

The filtering system, to which allusion is made on page 33 is also operated with a filter having a method of reversing the current and washing in sections. This system is highly esteemed where used. An alum tank is also included in each plant set up. The use of alum is sometimes necessary, but may be used or not, as the user desires. The arrangement of pipes and valves is such that the flow of alum may be regulated to a nicety.

Caustic Soda.

We unhesitatingly pronounce this article of commerce the bane of the laundry business. No other agent ever used in the laundry is guilty of so many crimes as is caustic soda, and it should never be used except to soften water. To those who look upon it as a useful and harmless detergent under proper use, our ground may seem somewhat extreme. Nevertheless, we believe we are correct. Caustic soda is an extremely active agent. It is never idle. If it can get hold of anything of a greasy or oily nature to work upon it is satisfied, but in the absence of such matters it will work upon something else, and in the laundry that something else is the customers' clothing. If caustic soda must be used it should be used sparingly and carefully. In regard to its use in the soap barrel and the bleach vat we shall speak later on.

Carbonate of Soda or Soda Ash.

This is a useful article in the laundry and an excellent detergent of considerable strength and very little corrosive quality. It is also comparatively cheap. The custom among laundrymen of buying neutral soap—so called—makes the use of some alkali necessary, either caustic soda, potash, soda ash, carbonate of soda or sal soda. We believe carbonate of soda to be the best for the purpose, combining, as it does, usefulness with lack of harmful quality.

Sal Soda.

This article is very largely used in laundries but has very little merit. We incline to the opinion that clothing washed in soap containing a large percentage of sal soda tends very strongly to yellowness. The caustic soda carefully used is preferable, and the carbonate of soda better on all accounts. Some misunderstanding may arise from the fact that we make a distinction between soda ash, sal soda and carbonate of soda, while each are sold under the head of soda carbonate. The sal soda of commerce, as we understand it, is commonly called by chemists "soda crystals," it is usually very impure and contains a large percentage of water. The soda ash is the crude carbonate which has been evaporated to dryness. It is a powerful detergent and costs about two cents per pound in quantities. When we speak of carbonate of soda we allude to what is sometimes called concentrated soda, and is the corbonate in its purest form, costing about two and one-half cents per pound.

Turpentine.

Turpentine has its place in the laundry. It is useful in removing soap specks, also in removing many stains. It is also used as a detergent, having also somewhat of a bleaching effect. A small amount may be added to each wash with the soap, or it may be incorporated with the soap. To forty or fifty gallons of soft soap, use one pint of turpentine well stirred in before the soap cools.

Ammonia.

Ammonia is a powerful detergent and has considerable utility in the laundry. It is sometimes incorporated with

the soap, but owing to its extremely volatile nature the full benefit is not thus obtained. The better plan is to use a little, clear, in each wash.

In washing woolens, if a neutral soap is used, the addition of a little ammonia will be found advantageous.

Borax.

It is one of the best of alkalies, but too expensive for very general use. It may be used, however, to good advantage in the washing of woolens.

Marking Ink.

An excellent marking ink is made as follows: A lump of drop black ground in Japan the size of an English walnut is liquified by the use of turpentine. The liquid should be of the consistency of molasses. Mix this thoroughly with one pint of asphaltum varnish. Thin to the proper consistency for use with crude carbolic acid.

Washing.

It is said that the washing of fabrics is partly chemical and partly mechanical action. While we do not consider this an exact diagnosis of the case, the theory is unimportant. The main point is results. It is well to remember, however, certain particulars. In washing, soap is the solvent. Water is the vehicle through which the solvent is applied, and also serves to carry away the dirt (we know of no plainer or more proper term to use) after it becomes detached from the fabric. Generally speaking, the solvent is more active in moderately warm water than in cold or hot water. This statement may be disputed. At all events, we know that all wearing apparel is more

or less stained by the exudations from the skin and by coming in contact with matters outside. Heat so operates upon many of these stains as to make them become "fast" or fixed to the fibre. Hence, soiled goods should never be subjected to heat until the detergent has had abundant time to loosen all soil and stains.* The object of heat in washing is to open up the fibre to allow the dissolved matters to escape. When the power of the chemical (*i. e.*, soap) has been sufficiently applied, the detersive liquid (*i. e.*, suds) will have become filled with the matters removed from the fabrics being operated upon, held for the most part in *suspension*. This liquid is allowed to go to waste, taking away with it the dirt removed from the goods. The object of rinsing is to remove the residue of dirt. Hence the rinsing must continue until the goods are saturated with clean water rather than dirty. Theoretically this point is a difficult one to reach. Practically, from three to five rinsings will be found sufficient for approximation. Obviously if goods in the process of scouring are plunged from a hot bath to a cold one, the fibre will be immediately contracted, so much so as to prevent the free passing out of the matters that have been loosened by the solvent. Therefore it is plain that after the goods have been once subjected to heat, the same temperature should be maintained until the washing operation is completed.*

The first step in washing operations is to sort the goods to be washed as follows: Shirts and other white goods, into much soiled and slightly soiled lots. In large laundries three distinctions are sometimes made, *i, e.*, slightly soiled, considerably soiled and much soiled. Collars and cuffs are not generally sorted, except from other goods, it being best, in so far as possible, to handle them separately. Underwear, colored goods, etc., are sorted as follows: Shirts, collars and cuffs and other cotton and linen goods of fast colors, weak or suspicious colors, ordinary under-

*See page 43.

wear, all wool goods. We will consider first the washing of collars and cuffs. First, run ten to fifteen minutes in clear cold or slightly warm water. The more dirt there is to be removed the more of the solvent (soap) is necessary, it is certain that clear water will rinse away considerable of the dirt adhering to the goods, hence it is considered wise to use this clear water. It can do no hurt and beyond question is a benefit. Lukewarm water is now drawn in and sufficient soap to make a good *live* suds. The wash should be closely watched. If at any time there seems to be a tendency on the part of the suds to fall away, more soap should be added. This operation should be carried on for from thirty to forty-five minutes, depending upon the amount of dirt to be removed. (In case of goods only slightly soiled twenty minutes will be found sufficient.) The water is gradually heated, care being taken not to raise it to the point of ebullition until at the end. There is no benefit in boiling goods. In fact, continued boiling tends to weaken and discolor the fabric, but the last five minutes of washing may profitably be done in *very hot* water. Now follow with three hot rinses and one cold. Some dispense with the fourth rinse and use hot water only. We favor the cold rinse and in experience find it advantageous. We must remove the solvent as well as the dirt, and cold water will do this more quickly than hot. The only object of the hot water, as we have seen, is to hold the fibre well open until the dirt is carried away.* The next step is the bleach. For this purpose pure chloride of lime solution is used, the amount and time depending upon the strength of our solution. If prepared by mixing ten pounds of dry chloride of lime in forty gallons of water, two to four quarts and fifteen to twenty minutes will be found sufficient. In this operation we start and run in cold or lukewarm water. At the end (say the last five minutes), full steam is turned on and the solution heated as quickly as possible and to

* See page 43.

considerable heat. The object of this is to discharge the chlorine and get the full benefit of it. We now rinse once and then sour. The sour may be sulphuric (cheapest), muriatic, oxalic or acetic (least harmful) acid. This is usually done in cold water, though some claim a better result from the use of hot sour. If oxalic acid is used, we should recommend the hot sour, otherwise not. The sour should continue at least ten minutes. Regarding the necessary amount of acid this depends, of course, upon the kind used. The best plan is to ascertain the exact amount necessary of the kind used to produce in the water a slightly acid taste. Of course a more accurate plan would be to fix the amount by chemical test, but this is hardly necessary. The sour is followed by three rinses, which may be either hot or cold. We usually recommend one hot and two cold. Finally comes the blue. This is always a matter of taste, yet we think laundrymen more frequently use too much than too little blue. The goods should show when dry a slightly blue tint when held between the eye and the light. In such case when lying upon the table they will look perfectly white. Many prefer a stronger tint, but to the general trade we think the lesser will be more satisfactory. There are many blues in the market of such a nature that good results may be had without the use of sour. Where pure aniline colors are used the sour seems to be a necessity, and from a chemical standpoint it is always advisable to use a sour after chlorine has been used, the acid serving to neutralize the corrosive effect of the chlorine, and to carry away the matter dissolved by the chlorine.

In washing shirts no better results are obtainable than by following exactly the same routine as in the case of collars and cuffs. Of late years the so-called soft bleaches of commerce have come into quite general use (*i. e.*, Chlorozone, Diamond Bleacher and Washer, etc., etc.) While we are not advocates of these various chlorine and alkali

solutions, there is in their use considerable of economy in time and convenience. In their use the bleaching may be made a separate operation as in the case of chloride of lime, but as their object is primarily to permit of the bleaching and washing being done at one and the same time, it is advisable that they be so used. Hence it follows that after the suds and the three or four rinses we come at once to the sour and then rinse and blue as in the case of collars and cuffs. The same general principles as previously described obviously apply to the washing of shirts by the soft bleach process. Coming now to the colored goods, such as shirts, collars and cuffs, the same system is followed with the following modifications:— First, the suds is not carried to an extreme heat. Second, the bleach and sour are very much reduced or entirely cut out. We have found that if care is taken in the sorting of the goods (removing blues and other weak colors) a weak bleach may be used with safety and certainly to good advantage as far as results are concerned. Weak colors are generally washed by hand. A machine may be used, however, but a mild soap is necessary, and at no time must the water be very hot. Ordinary underwear (exclusive of all wool goods) needs very thorough washing. We know of no better plan than to follow the system as given for white goods, cutting off the one cold rinse, the bleach, the sour, the blue and the intermediate rinses. Finish with a hot rinse and don't blue. The handling of woolens will be treated in another place.

While the wringing is essentially a part of the washing process, very little more need be said upon the subject. However, very thorough wringing is necessary. It is presumed that most laundrymen use the centrifugal wringer. About 1,200 turns per minute is the usual speed at which these wringers are run. At this speed all starched goods should be run in the wringer from eight to ten minutes, at a higher speed a trifle less time will

suffice, and at a less speed more time is necessary. The great advantage of thorough wringing may be easily demonstrated. Run one lot six minutes and another lot ten. In starching and finishing follow the same course with each, and note carefully the result in each case.

Since the foregoing was written the opinion of laundrymen has changed somewhat, relative to the value of the hot rinse. It is claimed that while heat does expand, it expands material, not space; hence the hot rinse has an effect contrary to that heretofore claimed. In other words, the heat expands the material and therefore closes up the interstices; hence the material we wish to get rid of in rinsing passes away more slowly in the hot rinse, and less effectually, than in the cold. A little study of this matter seems to prove the ground well taken, and results in doing away with the hot rinse entirely.*

There has been recently an effort on the part of laundrymen to reduce the time of washing. This effort is based upon the belief that the old system is needlessly long. It is evident that a short or quicker system of washing is preferable, providing equally good results are obtained. The wear upon goods in the wash is considerable, and by reducing the time we save a portion of this wear. Of course, the saving in time is valuable, and there is also a saving in water which in many cases is a desideratum.† The following is given as a quick system:

1st. Run for five minutes in cold or slightly warmed water.

2d. Draw into the machine of lukewarm water enough to just cover the goods; put in sufficient soap to make a good suds, but not enough to foam over; turn on full steam, start the machine, and run twenty to twenty-five minutes, or until the suds is boiling hot. There must be a good suds all the time, hence it may be necessary to add soap from time to time.

*This is not conclusive. The real value of the hot rinse is in the fact that thus the soap is held in solution until the rinsing is completed.

†See page 45.

3d. Rinse once in cold water.
4th. Bleach ten to twenty minutes.
5th. Rinse once in cold water.
6th. Sour and blue in same water.
7th. Rinse one or more times for color.

This process may be shortened somewhat by using the bleach with the soap, a soft bleach being necessary for this purpose. It is also claimed that if the goods are properly sorted before the wash, the comparatively clean from the dirty. In those loads containing the clean work the bleach may be left out entirely. This is the system usually followed when the various cleansing powders (advertised) are used.

New Method of Washing.

A new system of washing for which much is claimed is as follows:

The goods are first run in clear cold water for fifteen minutes. This water is drawn off and water either cold or slightly warmed is drawn to a depth of *one to two inches* in the inside cylinder. It will be noticed that this is very much less water than is generally used, and this is where the system differs essentially from other systems, the usual depth of water being from six to eight inches. Soap is now introduced and the goods are run with a *slight inflow* of steam. After about ten minutes introduce the bleach (soft) and continue running and gradually heating for twenty to thirty minutes. Then open steam wide and let it run so for five minutes. Next scald in a suds of neutral soap. Rinse and finish up as usual.

Any of the ordinary soft bleaches may be used, or a bleach may be prepared by using one part of chloride of lime to two parts of sal soda. For instance, fifteen

pounds chloride of lime, thirty of sal soda, fifty gallons of water. Twenty pounds of carbonate of soda may be used in place of the sal soda. One gallon of this bleach will be sufficient for one hundred shirts, or their equivalent in other goods.

The tendency of recent years has been to decrease the time in washing and the number of waters used. If we admit that the washing process is more chemical than mechanical, this tendency may not be in the direction of progress. We know that laundries having to do with new work alone take very much more time in the washing process than does the average custom laundry. It is generally supposed that the stock laundryman, so called, has a more accurate knowledge of his business than the average custom laundryman; hence it may be fair to conclude that he is nearer right in his process than the other.

Again, there is a tendency to cut short the sour, and in some cases to leave it out entirely. This matter has been spoken of in another place. If we refer again to the stock laundry, we will find there that more time and care are given to the sour than to the bleach.

Again, we find that the custom of using an alkali at the beginning of the washing process is, in the stock laundry, universal. This alkali solution is prepared by the use of either caustic soda or caustic potash, and is generally of 30° (Baume) strength. With these facts in view, the following system is proposed to those whose aim is exclusively fine work, and who can afford the time required:

1st. Run 15 to 20 in alkali-water, cold or only slightly warmed, about one pint of the alkali solution being used to each 50 shirts.

2nd. Suds. One hour. The suds is started with the water at about 100°, care being taken to hold this temperature until the last few minutes, when steam may be turned on, but there should be no boiling.

3rd. Bleach 15 minutes, temperature not over 100°. It is assumed that soft bleach will be used; if not, one or more rinses should come between the suds and bleach.

4th. Three or more rinses.

5th. Sour, 30 minutes; temperature, 100° to 120°.

6th. Two or more rinses.

7th. Blueing.

Washing Without Bleach.

It is sometimes said by laundrymen: "If we could only do nice work without the use of bleach, our troubles would come to an end." This is not altogether true. In the first place the use of bleach under proper conditions and with proper care is not particularly harmful; or, perhaps more correctly speaking, is so slightly harmful as to be of no great importance. In the second place, fault finding is of necessity, an adjunct of our business. Let the laundryman be ever so discreet in the use of chemicals, let him exercise all possible care in the handling of goods, yet there will always be some to claim that their goods are too rapidly worn out. The reasons for this are too obvious to require particular mention. Rest assured, this kind of complaint will follow the laundryman until he "wraps the drapery of his couch about him and lies him down to pleasant dreams," in eternity. Thus we may argue that the first thing for the laundryman to do is to be sure that his work is good.

As a laundryman recently said: "My first point is to turn out work that suits myself. If I succeed in doing this I shall suit the great majority. In order to do so I may be obliged to use considerable bleach. Well and good, I will use it. My customers may complain that I wear out their goods, but they cannot complain that the

work is not well done. When I reach this point, then I may very carefully work to reduce the use of chemicals to the minimum." This is a sensible view of the case. Good work first, reform in methods (in so far as the use of chemicals is concerned) second.

But may not good work be done without the use of bleach? The answer to this must not be too explicit. It is generally maintained that when work is dried indoors, some considerable bleaching is necessary. We incline to that opinion. Sometimes men who claim to be honest say that they are doing good work without the use of bleach. For instance, a certain laundryman rings the changes upon this claim year in and year out, and flatters himself that he is a man of veracity. But he uses oxalic acid and lots of it. It will strike the average reader that the advantage in this case is more imaginary than real. First, the acid is not as effective. Second, it is more expensive than chlorine. Third, it is fully as harmful if not more so. Again, we find a man who makes the claim of no bleach and yet good work, who actually does not use the chlorine or the acid. But the trouble in his case is in the two words, good work. It may seem good to him, and it may suit his trade. If so, that is enough, but this "good work" will not pass muster in many places. If you will examine the work of the best custom laundry with that of the best stock laundry, you will find a striking similarity between the two in color and clearness. Yet the latter work has only reached its state of perfection by the use of bleach, even though the fabric of which the goods are made is bleached before it comes to the manufacturer, and he has not the stains of wear to contend against.

The general public has been educated up to the demand for such work, and unless the laundryman can meet the demand he will not have large success. Therefore we claim that A No. 1 laundry work can only be

done with the use of bleach to a greater or less extent.

Fairly good work, however, may be done without bleach. We would advise a trial of the following plan:

First—Soak the goods in an alkaline bath (pearl ash or soda ash) for fifteen to thirty minutes.

Second—Give a thorough washing, beginning with lukewarm water and gradually heating up to about 212°, taking from thirty to forty-five minutes for the operation. Use a pure tallow soap with only slight causticity, and for a load of fifty shirts or their equivalent in other goods use eight ounces of turpentine.

Third—The goods are given a scald in hot water, using a little neutral soap and borax, after which the rinsing is very thoroughly done (four to six different baths); then blue, wring out, starch and dry as quickly as possible. If a sour of oxalic acid is used, the work will be much improved, but this has the same objections as a bleach. Camphene or kerosene oil are sometimes used instead of the turpentine.

Washing Woolens.

From the standpoint of experience we make the statement that satisfactory washing of woolens lies in the use of pure materials and keeping them at a uniform temperature throughout the process. "Satisfactory" means that the woolens shall not be "fulled" (shrunk), and that they shall be clean and soft. The detergent should always be a pure neutral soap, but in addition borax or ammonia may be used, preferably the former. As to the soap used, whether it shall be one having potash as its alkaline base or one having soda is a much disputed question. Great claims are made for the former, and while we in a measure advocate potash soaps we do not in experience find all these claims substantiated. It is

true, without doubt, that potash is the natural detergent for use in wool scouring. It is true that potash has a less corrosive effect upon wool fibres than soda, but it is also true that woolens will often shrink when handled in potash soaps, and it is not true that woolens handled in soda soap must of necessity shrink and become harsh.

Woolens are usually washed by hand, but they may be washed in the machine if sufficient care is taken and the same general rules followed as in hand washing. Woolens, however, should not be manipulated more than necessary; hence the machine washing is *more* likely to cause shrinkage than hand washing. Our method of washing woolens is as follows: A suds is made in water heated to about 100° Fahrenheit by the use of neutral soap and borax. The several garments are then taken, one at a time, and soap is rubbed upon the more soiled parts. The goods are then saturated in the suds, each piece rolled up by itself, placed in the suds and allowed to soak for from one to three hours. The object of soaking is to avoid rubbing as much as possible. After soaking, another tub of water (clear) is prepared of the same temperature as the first. The goods are now thoroughly shaken out in the suds. When necessary they are rubbed upon the board and then rinsed in the tub of clear water. They are now wrung out in the centrifugal and dried quickly. I have never known woolens to shrink when handled in this way. It is sometimes desirable to give woolens more rinsing, but where pure material is used it is not necessary. A soap containing some palm or cocoanut oil is excellent for wool washing. A soap containing rancid fats should never be used.

Hand-power machines may be used to good advantage in washing woolens.

There is no good reason why laundrymen should not increase their receipts by the cleansing of woolen trousers. The first step is to examine each pair for spots,

which are removed by turpentine, benzine and other solvents. They are then washed exactly as a wool shirt would be washed, after which they are wrung, turned wrong side out, well shaken and hung in the dry room. In pressing, if you cannot afford a pressman, contract with some tailor to do the work for you. It is important that the pressing should be well done. Trousers handled in this way look as good as new and will give better satisfaction than the ordinary tailor job. It is sometimes considered a good idea to remove flannels from the dry room before perfectly dry. They are then neatly folded, smoothed by hand and hung in again. When dry they are ready to go out, no further pressing being necessary. Upon the whole, however, it will be found best to press all flannels with the flatiron or in the mangle. Very fine flannel coats, pants, etc., should be very carefully pressed beneath a cloth in the tailor fashion.

Bleaching.

It seems to be the conclusive evidence of the great majority of laundrymen that first-class laundry work cannot be turned out rapidly and in any considerable quantity, without the use of bleach. Yet we find men here and there who differ from this conclusion, at least in so far as claims not to use bleach of any kind constitute a difference. It will be admitted that most laundrymen do use a bleach, and also, that they would not unless they firmly believed it to be necessary.

Hence we have the choice of three conclusions: First, these men do use bleach and are dishonest in their claims. Second, they do not use bleach and are honest in their claims, but their output is, in quality, below what the average laundry patron demands. Third, these few men are the wise ones, while the trade as a whole is com-

posed of fools. There seems to be no escape from this logic. We are willing to grant the two first conclusions, but not the third.

We will inquire what it is to wash cotton and linen (white) goods without the use of bleach? Or rather, what is the best possible process, and what will be the result? We do not see how it can differ very much from the following:

First--Very thorough washing, using the best soap obtainable.

Second—Careful and complete rinsing.

Third—Bluing.

A very short and simple process, but if we are not to use bleach, we cannot go one step beyond this. It is true that even with this simple system one man may succeed better than another. One may use too much or not enough water: One may run his goods too long, another not long enough. One may use too much soap (a possibility), another not enough. Another may heat up his water too quickly, etc.,etc. Suppose we take a man who understands the science of scouring cotton and linen fabrics perfectly, both theoretically and practically. Now let him take an ordinary batch of laundry work and follow this simple system. When he has finished what are we likely to find? Simply a load of nicely washed goods, but not having that whiteness and freedom from stains which is demanded by the patrons of the laundry.

If we decide to adopt this system we may improve it somewhat by the use of other solvents in addition to the soap. We note among these, bicarbonate of soda, carbonate of soda, borax, turpentine, ammonia, naphtha, etc., etc. Any one of these will be a help, and yet sooner or later we will find our patrons going to our competitor who uses bleach.

The prejudice in the minds of some against chlorine is such that they dodge the issue by using oxalic acid. This

acid, perhaps, may not be properly called a bleach, but it does a part of the work the bleach is intended for, and if we use it we cannot honestly claim not to use a bleach of *any kind.* Besides, we apprehend that the acid is worse than the chlorine.

We therefore give it as our opinion that the laundryman is condemned to the use of bleach until some new discovery is made.

That laundries do sometimes carry bleaching to an excess is doubtless true, but probably in the main the use of bleach will be conservative and careful. The more carefully the washing and rinsing is done, the less bleaching is necessary. Bleaching should never be resorted to, to do that which soap and water will do as well or better. Is bleaching harmful? Probably always slightly so, but it need not be more than slightly harmful. Bleaching is not the laundryman's fault, but his misfortune. Hence he will always study to reduce this misfortune to its smallest component parts. He will be very sure that his washing and rinsing have done everything possible in the way of color before he resorts to the bleach. He will be careful in the selection of his agents and will be very sure to use no more material and time than is absolutely necessary to produce the needed result. Both good, economical business practice and reasonable regard for the property of his patrons will demand all this.

The various bleaches and methods of use, will be discussed in another place.

Chloride of Lime and Other Bleaching Agents.

Before speaking of the practical work and value of chloride of lime in the laundry, it is well to remark that bleaching of cotton and linen fabrics is almost wholly done by the use of chlorine. We may not use an ounce of chloride of lime, but if we use any bleaching solution whatever, we may rest assured that the active agent is chlorine. Therefore if we condemn chloride of lime as harmful, we must of necessity include in our condemnation all the various laundry bleaches. Let us emphasize the fact, that if harm is done by chloride of lime, it is done by the chlorine. The lime is the vehicle which carries the chlorine to our hand, and is harmless. So in other bleaches, the agent we seek is chlorine; the various solutions are simply the vehicles. If these vehicles are harmless, well and good. If they are harmful, we simply add to our troubles by using both a harmful agent and a harmful vehicle. It may be gathered from this that we are not altogether in favor of the various soft bleaches, so called, which are finding such a large sale at the present time. The surmise is correct. While we shall speak of the use of these bleaches later on, we do not place that value upon them that obtains in many quarters. In fact, we are of the opinion that much harm is done every day by mistaken ideas upon this matter of soft bleaches, and manufacturers of them who have lauded them to the trade as free from harmful action are guilty of either ignorance or deception, probably the latter. We now come directly to chloride of lime and proper methods of use.

A certain chemist who is frequently quoted in laundry circles says of chloride of lime, or bleaching powder: "*It*

is perfectly harmless and does no damage whatever to cotton or linen goods treated with it, if used in the proper manner and not in excessive quantity." From our standpoint this language is slightly misleading. Youmans says: "Chlorine destroys the coloring matter by uniting with its hydrogen." And again: "It is so powerful that if not quickly removed it corrodes and weakens the fabric." We know that if cotton, linen or woolen goods be left long enough in any chlorine solution they will be destroyed, the time required depending upon the strength of the solution, hence we are justified in saying that chlorine is never "perfectly harmless." We may reduce the harmful action to the minimum by the weakness of our solution (this being better than to use a strong solution a short time), but so long as there is sufficient chlorine to have bleaching effect, just so long will it show its corrosive action. We speak of this fact simply to show that the bleaching should never be carelessly done or left to the judgment of an incompetent person.

As has been said, bleaching is not the laundryman's fault, but his misfortune. In other words it is a necessity. In our judgment, there is nothing now within the reach of laundrymen so effective and so little calculated to do him injury as pure chloride of lime. We will now speak of some of the methods of preparation, giving that of our preference first.

Mix thoroughly ten pounds of dry chloride of lime in twelve gallons of clear, soft water slightly warm. When mixed pour into a forty gallon barrel, vat or tank, fill with clear water, stirring meanwhile. When settled it is ready for use. The clear liquor may be dipped out at the top, drawn from a faucet at sufficient height from the bottom of the barrel to avoid the sediment, or it may all be drawn out and put in carboys. At all events, it should be kept from the air. This solution, if used according to directions given later on, will always give satisfaction

and is, we think, as harmless a bleaching solution as can be used.

Another method of preparation is similar to the foregoing, except that ten pounds of pure caustic soda are used in addition to the bleaching powder. It is perhaps true that this solution is more rapidly effective than the first, and it may rinse more rapidly, but we have here added to the evil effect of chlorine the evil effect of caustic soda. For this reason we consider this solution objectionable. It is sometimes urged that this solution is better in the case of hard water. We cannot understand the correctness of this claim. In our experience chlorine works as well in hard water as in soft. Again, soft surface waters frequently contain vegetable matter in solution. In such a case a portion of the power of the chlorine will be expended upon this vegetable matter.

Another method is to mix twenty pounds of chloride of lime in o thirty-two gallons of cold water. Dissolve forty pounds of carbonate of soda in eleven gallons of warm water. Pour the two solutions together, settle and draw into carboys. We should consider this solution superior to the preceding from the fact that the carbonate will be less likely to do injury than the caustic.

Another solution is prepared as follows: Use three separate barrels or tanks. Put into each barrel thirty gallons of clear soft water. Use in one barrel chloride of lime, in another soda ash, in another sal soda, using enough of each to bring each solution up to 24° Baumé. Mix together four gallons of the chloride of lime solution and three gallons each of the sal soda and carbonate solutions. Settle and draw into carboys. We have never used this solution, but it is highly recommended.

Another solution: Five pounds chloride of lime, ten pounds of sulphate of soda, four pounds sal soda, twelve gallons of water. This is an old and very common solution, though not very largely used in laundries.

Another solution: Fifteen pounds chloride of lime, thirty pounds of sal soda (or twenty pounds of soda ash), fifty gallons water.

Another solution: Mix twelve pounds chloride of lime into two gallons soft water. Let it stand twenty-four hours. Mix sixteen pounds carbonate of soda and two pounds bicarbonate of soda into three gallons hot water. Bring both mixtures to boiling temperature, pour lime mixture into soda mixture, boil gently for ten minutes. Will settle out clear in about twenty-four hours; draw off clear liquor into carboys. Four pounds caustic soda and eight pounds carbonate may be used for the soda mixture.

We come now to the consideration of the various soft bleachers. While we cannot consistently recommend these very highly, they have come into very general use. The advantages are very largely in the saving of time (and possibly of soap) from the fact that the washing and bleaching may be done in one and the same operation. If we were to look for a common name for all these solutions we should arrive at the term, "chlorinated soda," from the fact that they are all simply alkaline solutions charged with a varying percentage of chlorine. The alkali is either caustic soda, or caustic soda and carbonate of soda combined. The hydrometric strength varies from 20° to 30° Baumé, while the available bleaching chlorine varies from ¼% to 5 %. It is sometimes supposed that the value of these solutions as bleachers may be fixed by the hydrometer test. This is a mistake. The hydrometer gives us simply the specific gravity and gives no hint whatever of the chlorine strength. For instance, we may prepare a caustic alkali solution of say 24°. Now, if we introduce 2% of chlorine there will be no appreciable change in the specific gravity. Hence in buying these solutions we are dependent upon the word of the seller, the test of actual

use, or the chemical analysis, the latter being preferable. Chlorine will curdle soap and make it of no use. By combining the chlorine with the alkali we are able to use the chlorine in conjunction with soap. This is the office of these solutions. In preparation the aim should be to incorporate the largest possible percentage of chlorine compatible with use in connection with soap. This rule is not always followed. We find solutions that are exceedingly caustic and contain a very small percentage of available chlorine (see analysis later on). It is difficult to understand upon what ground the manufacturers of these various bleachers claim the virtue of harmlessness. We observe that the bleaching agent is chlorine and we know this to be harmful, depending on the degree of strength and length of time of use. Add to this the alkali effect and the result is contrary to these claims. The alkali solution may be two parts caustic to one part carbonate, which would be preferable to a solution of caustic soda alone. Again, caustic potash may be and probably is sometimes used. This alkali will allow of a larger percentage of chlorine in proportion to causticity, which is certainly desirable, and probably a potash alkali is less injurious to cotton and linen goods than caustic soda. Why then not always use the potash? The answer lies in the fact that the potash solution must be sold in competition with the caustic soda solution, and as the cost of manufacture is greater the matter of competition becomes difficult. This generally results in dropping the potash and using soda exclusively. We close this part of our subject by giving a correct chemical analysis of one of the bleachers and washers now finding a ready sale. For bvious reasons we refrain from giving the commercial name by which this solution is known.

ANALYSIS.

Caustic soda	18.00%
Carbonate of Soda	7.10%
Common salt	.70%
Bleaching chlorine	.38%
Potash salts, impurities	2.00%
Water	71.82%
	100.00%

The hydrometer strength of this solution is probably about 24%, while the chlorine (the only bleaching agent it contains) is less than ½%. Laundrymen may draw their own inferences, and also decide whether or not it is worth while to use so much of alkali for so little of chlorine.

In giving our ideas upon the methods of using the bleach, we shall refrain from mention of all solutions except the first, for in the first place, all the solutions given may be used in the same manner, and in the second place the manufacturers usually send printed directions for use with their particular solutions. Before passing on to the matter of specific directions, we may pause to answer the question sometimes asked: "Is there no harmless bleaching agent available to laundrymen?" We may answer this question in the affirmative, and give as this agent peroxide of hydrogen. This agent is said to be a powerful bleacher, and has no corrosive effect whatever. It is an unfortunate fact that very little, if any, of this chemical is prepared in this country. It has been made and used somewhat largely in Europe, and has been imported to some small extent, largely for medicinal purposes and as a disinfectant. If we look for the reason why this agent has not come into use here, we find it in the fact of its cost being very much in excess of the cost of chlorine. We may reasonably hope that the time will soon come when this agent will be within the reach of laundrymen, and thereby one of the most vexa-

tious problems will be solved. In the foregoing pages this question of bleaching agents has not been exhausted. There are many other powerful bleaching agents, most of which have objectionable features which make their use in the laundry undesirable. Hence we have refrained from discussing them here. We should, however, briefly allude to sulphurous acid gas, which is a valuable bleacher for woolen fabrics. The method of use is as follows: The goods are moistened and suspended in large chambers, or they are put into inverted barrels and exposed to the fumes of burning sulphur. The effect is not produced by destroying the coloring matter as in the case of chlorine, but by the union of the acid with the coloring matter, which forms a white compound.

Goods should always be thoroughly washed and rinsed before bleaching is attempted, that is, if the best results are desired. For purpose of illustration we will take fifty shirts or their equivalent in other goods and wash them in a machine, using about forty gallons of water. We will take the chill from the water before introducing our bleaching solution. Of this we will use from two to four quarts, running from twenty-five to thirty-five minutes. Then we will turn on full steam and run for five minutes longer. The object of this is to discharge the chlorine and to get the full benefit before allowing the liquor to go to waste. We will now give the goods one rinse in warm water and then proceed to the "sour," which is virtually a part of the bleaching process. For this purpose we may use sulphuric acid (about 5 oz.), muriatic acid (about 7 oz.), oxalic acid (about 8 oz.), or acetic acid (from 10 to 12 oz.) The first has the merit of cheapness. It is not generally used because of its great strength and capacity for injury. Yet handled with care it cannot inflict any great amount of damage. The second acid is considerably used and very well liked. This also makes a very economical "sour." The third acid is,

upon the whole, the most satisfactory of all. Nothing so perfectly "clears" the work, taking up as it does many of the stains left by the chlorine. Lastly, the acetic acid makes quite a satisfactory and a harmless "sour," the main objection being cost. The souring should consume at least ten minutes. Finally the goods are very carefully rinsed. Sometimes laundrymen devise various means of avoiding the "sour." We do not think this a desirable thing to do. First, because the bleaching to be as well done without the sour, requires more time or a stronger solution. Second, the use of the acid in a measure neutralizes or counteracts the corrosive effect of the chlorine. Some laundrymen prefer to remove the goods from the washer after the washing is done, the bleaching, souring, rinsing and bluing being done by hand, in vats provided for the purpose. This plan has some advantages. First, the various liquors may be used over and over again, being "toned" as necessary by the addition of fresh material. This effects quite a saving in material, as by the machine process each batch of clothing has its particular liquors, the same going to waste after use. Second, the life of a washing machine will be somewhat longer if no bleaching is done in it.

Of course the plan also has its objections. First, the bleaching liquor cannot be heated, and being open to the air and more or less agitated in the handling of the goods, there is a constant loss of chlorine, and unless the person in charge of the work understands his business thoroughly, there is likely to be a lack of uniformity in results. Obviously these objections do not apply as strongly to the sour bath, and not at all to the blue. In the second place, to follow this system more room is required and more manual labor. Naturally some of these objections are disputed by the advocates of this plan. The bleaching, they say, may be more accurately

and uniformly done if the operation is always under the eyes. The heating of the bleach instead of being an advantage, is claimed as a disadvantage, and as far as the labor is concerned, it is said about so many hands must be employed anyway. While this work is being done in the tubs or vats other goods are being prepared (*i. e.*, washed in the machines), hence there is, if anything, a saving of labor. We cannot do better than leave this question with the reader.

The bleaches made under the various formulæ given in which alkalies are used, may be used in connection with the suds.

Black Specks.

It sometimes happens that a dark-colored, gummy substance forms in the water in which the washing is being done. This substance settles in the edges of collars and cuffs, bands of shirts, etc., etc., and between the several plys, in specks. These are what are commonly called black specks. They are caused, usually, by an excess of alkali. It is the nature of alkali to combine with the fatty acids and form soap. It is a mistake to suppose that soap is always soluble in water. An unsoluble soap is well known to the chemical art, and has its proper place. It is a well-known fact that the soiled clothing of man contains more or less of fatty acids, coming from the exudations of the body. Now, if in the washing process we have in our machines any amount of free alkali, it will at once unite with the fatty acids and form a soap. This soap settles in the goods, as we have seen, and forms the black specks—so called—the proper name is soap specks. The process of combination is such that instead of having a perfect soap, which would cause us no trouble, the soap so formed is insoluble in water; hence the difficulty of removal.

It is evident that if we have no free alkali, we will have no soap specks; hence prevention lies in the direction of careful attention to our alkalies. In the first place, we may find that we are using an excessive amount of soda; therefore, the amount should be reduced. Again, it is a fact that as long as there is a good, live suds in the machine, no separation of alkali will take place (*i. e.*, there will be no free alkali); hence we must watch our suds closely. At any time that the suds seem to be collapsing, more soap should be added. If attention is given to these two points, soap specks will not form.

This insoluble soap has been found to be soluble in turpentine. Hence, in case it forms at any time, turpentine should be used to remove it. The usual plan is to boil the afflicted garments for a few moments in soap suds, to which a small amount of turpentine is added.

Soap specks should not be confounded with lime curd. The latter is similar in appearance, but of a different nature, and may not be prevented or removed in the same way. Lime curd occurs only when hard water is used. The remedy lies in softening the water before use.

Family Work.

While in some cases laundrymen have made a success of family work, this cannot be said to be the case in general. There is a large avenue here for trade that, generally speaking, has not been worked to any considerable extent.

The trouble seems to be to hit upon some plan—relating to price largely—by which satisfaction may result to both customer and laundryman.

It is customary sometimes to fix a contract price by the week. This plan does not work satisfactorily. The customer may be perfectly honest, yet the tendency is

for the washing under contract to grow. Hence the time is quite likely to come when the laundryman is not getting fair compensation for his work. It is a truism, that while to lower a price is "as easy as rolling off a log"—and something like it—to raise a price is a very different matter. Therefore the customer who has paid $2 per week for his washing is not likely to submit gracefully to a charge of $2.50.

Again, the laundryman may try the plan of charging by the dozen. He figures the matter out carefully, fixing upon a price that is likely to attract custom, and yet one that will show a profit. His estimates are based upon the fact that there are likely to be a large number of small pieces. Take these out and his calculations are all at fault. But this is just what the customer may do. The laundryman remonstrates, of course, but nothing is settled thereby. He must do something to protect himself, so he stipulates that in order to obtain the special dozen rate the customers must include in the wash all the small pieces, and he also "reserves the privilege" of charging extra in case of an excess of large and difficult pieces. Again he finds the problem unsettled. The small pieces do not come in as large proportion as he thinks they ought, and when he works the extra charge combination the customer rebels.

Thus these various plans result in failure. To our mind there is but one satisfactory and businesslike way of doing family work, and that is to *charge by the piece.*

The ordinary laundry list is based upon "bye gone days." That is to say, the prices are so extreme that no family can afford to pay them. Thus we see that concessions of some kind are necessary. Let the laundryman carefully estimate what discount his list will stand. Perhaps he may fix upon 25 %. Very well. He says to his customer, "I will do your work according to this list. Upon settlement I will allow you a discount of **25%.**"

By this plan there is no possibility of misunderstanding. In making this discount it should not apply to shirts, collars and cuffs.

In most custom laundries the ironers are out on Monday, the starchers and washers on Saturday. If the laundryman can arrange with his family patrons to let him take their work on Friday and return on Tuesday, he is enabled thereby to employ his washers and strachers on Saturday, and his ironers on Monday. It really makes very little difference to a family when the washing is done, providing there is a regular time, and if the laundryman wishes to make such an arrangement as this, he may secure the trade by throwing out inducements such as a larger discount, etc., etc.

"Rough dry" work is usually done by weight, four cents to six cents per pound, the work being weighed when it comes in. Then if suitable facilities are at hand no listing is necessary. The washing is simply weighed, washed at once, dried and returned again to the owner.

Mangle Work.

A laundryman once said: "There is no use in trying to work up a mangle trade until you get a mangle." There is truism here which may not be seen at a glance. Many a laundryman who is ironing his plain pieces by hand, has thought: "Now, if I could only get a little more of this work, I would put in a mangle." Perhaps a restaurant keeper comes to him and says: "I want to contract with you to do my work." The price given, however, is not satisfactory. The laundryman says: "Well, you hold on; as soon as my trade picks up a little I shall put in a mangle, and then I can give you terms that will suit." Or, it may be, he goes to the hotel keeper and says: "I want to contract to do your washing."

"Well, how much?" "One dollar and twenty-five cents per one hundred pieces." "All right; when do you want to begin?" "Oh, you see, I haven't got my mangle yet, but if you will promise me your work I will send in my order and in a month or six weeks I will be ready for you."

He finds it difficult to make contracts under such conditions. Get your mangle first, and then you are ready to talk business. The laundry of to-day that has no mangle is short of a very valuable piece of machinery.

The prices for general mangle work, such as steamboats, hotels, restaurants, barber shops, etc., etc., vary from 35 cents to $1.50 per 100 pieces. Generally speaking, a price very much under 75 cents is not profitable. Yet the large laundry, having perfect facilities and with large contracts, may go considerably below 75 cents and make a profit.

Usually we should not bleach mangle work. In case of table linen it may be advisable to use a small percentage of bleach. Ordinary mangle work may be washed in about twenty minutes. It should be started in lukewarm water, and at the close the water should be quite hot. The rinsing—for best results—should be thorough. For bluing, prepare a liquid blue with one ounce of soluble blue and one gallon of soft water. Use very little blue.

After wringing, take at once to the mangle. A mangle that will not take care of the work direct from the wringer has no great value.

Stock Shirts.

Stock shirts require careful washing. After leaving the wringer they are passed through a thin dipping starch, after which the bosoms, bands and yokes are starched

stiffly. The round band is obtained by a metal ring, wooden form, or other device. The shirts should be pressed together and folded as flat as possible.

Lace Curtains.

Lace curtains are carefully washed, bleached, rinsed and starched by hand. They are then slightly wrung and stretched upon frames; when dry, the work is complete and much better than if ironed upon the table. The curtains should be carefully measured when they come in and the frames set according to this measure. If cream color is desired, it may be gotten by the use of cream tint aniline, sold by most supply dealers. The price should be by the yard, ranging from 10 cents to 15 cents per square yard. It is customary to charge a higher price for fine goods than for the coarse cheap grades.

Stains.

We always approach the question of stains with considerable diffidence. The laundry is infested with stains and the laundryman who would remove them all has a difficult job upon his hands and would need to be a chemist of large knowledge and experience. Generally speaking, however, if we know the exact character of a stain we will know the proper solvent to use.

Upon general principles it is not advisable to pay very great attention to stains (except in case of the most simple), for the reason above given. If, however, your idea is to do nothing but perfect work, you must remove the stains. Very nice work may be done without any especial attention to stains, but perfection means more than

that; hence you must examine every garment before it goes to the wash, and remove the stains before the washing operation begins. It will be readily seen that this means a large expenditure of time and patience. The question is, does it pay? We think not, because in the majority of cases the customer does not demand such perfection, and again, with proper washing many of the stains over which you might spend considerable time will disappear in the wash, the soap, bleach and sour being all stain eradicators. Oxalic acid is the almost universal panacea for stains, removing oxide of iron (iron rust), ordinary ink stains, etc., etc. Eight ounces of water dissolves one ounce of oxalic acid. It is best to use it in this strength. It should be hot, and only that part of the garment immersed which contains the stain, as the acid is exceedingly corrosive. Thorough rinsing should be done after the stain is removed. It is claimed that this acid has a less injurious effect if combined with saleratus in equal parts. Oxalic acid is a rank poison, and should always be guarded with care. Chalk and magnesia are the antidotes.

Sour milk is often used in removing fruit and similar stains. It is said also to be effective in removing mildew. This stain will usually yield to a weak solution of chlorine, the goods being first treated, and then exposed to the sunlight and air. Oil stains are removed by washing with soap in cold water. Sometimes, if the stain is obstinate, rubbing in lard before the scouring with soap will assist the operation. Turpentine and coal oil are also sometimes used in the same manner. Marking ink, if of nitrate of silver, will yield to chlorine. The anti-heat ink of the laundries will yield to turpentine, benzine and chloroform, if taken in time. If dry, no perfect solvent has been as yet produced. It is said that the following plan will sometimes take out the stain: Saturate the stain with turpentine, apply heat with a flat-iron, placing an

ordinary piece of blotting paper underneath. As the turpentine is exceedingly volatile the experiment needs to be carefully done. We do not vouch for the correctness of this formula.

FRUIT STAINS.—Place the stained part of the cloth over a bowl and continue pouring boiling water through until the stain disappears. If this is done soon after the article is stained there will be no trouble in most cases. Oxalic acid will also remove fruit stains. When stains are to be removed have a large pail of water and a bottle of household ammonia on hand. Wet the stained parts with the acid and then rub. When the stains have disappeared put the article in the water. Wash thoroughly in several waters and wet the parts with ammonia, that all trace of the acid may be removed. Finally rinse again.

GREASE SPOTS.—To remove them from delicate fabrics like silk, crepe, ribbons, etc., spread the articles stained on a clean cloth and cover with powdered French chalk or fuller's earth. Roll up the article and put it away for a few weeks, and it will become clean. Where soap and hot water can be used wash the spots in very hot water, using plenty of soap. Then rinse well. French chalk may be powdered and mixed with cold water to make a thick paste. Spread this on the grease spot and let it remain for several days, then brush off. If the stain has not entirely disappeared apply the mixture a second time.

COFFEE, TEA AND WINE STAINS.—If these stains on the table linen are of long standing, and have been washed with soap, it is rather difficult to get rid of them. But javelle water—which can be made at home or bought of a druggist—is generally most successful. Put about half a pint of javelle water and a quart of clear water into an earthen bowl; let the stained article soak in this for several hours, then rinse thoroughly in three waters.

It is only white goods that can be treated in this manner, as the javelle water bleaches out the color.

SEWING-MACHINE OIL STAINS.—To remove these, rub the stain with sweet oil or lard, and let it stand for several hours. Then wash it in soap and cold water.

PITCH AND TAR STAINS.—Rub lard on the stain and let it stand for a few hours. Sponge with spirits of turpentine until the stain is removed. If the color of the fabric be changed, sponge it with chloroform and the color will be restored.

INK STAINS.—Tear blotting paper in pieces, and hold the rough edges on the ink when it is freshly spilled, or cover the spot with Indian meal, or the liquid ink may be absorbed by cotton batting. If ink be spilled on a carpet, cut a lemon in two, remove a part of the rind and rub the lemon on the stain. If the ink-stained article be washed immediately in several waters and then in milk, letting it soak in the milk for several hours, the stain will disappear. Washing the article immediately in vinegar and water, and then in soap and water, is another remedy which will remove all ordinary ink stains. No matter what substance be used to remove ink, the stain must be rubbed well. If the article stained be a carpet on the floor, use a brush.

GRASS STAINS.—Rub with alcohol, then wash in clean water.

Dampening.

The dampening of starched work is an important part of the laundry operation. A collar or a shirt may be well washed and well starched, but if the dampening is improperly done the ironing becomes difficult and the result unsatisfactory. This is especially true of machine ironing. The hand operator may, by a judicious use of the dampening cloth, and by careful work, overcome the poor

work of the one who does the dampening, but in machine work the conditions are different.

The collar (or the shirt) must be just damp enough—not too damp, not too dry, and the dampness must be uniform. We will not speak of machine dampening, as this method has as yet failed of general adoption. We find laundrymen who hail the dampening machine as a great success, while others have used it and thrown it aside as a failure.* The usual method of dampening collars and cuffs is to roll or fold them in damp sheets, after which they are subjected to pressure for one hour or more. The collars may be laid in, singly or in pairs. The following plan has been found to work well: Heavy unbleached cotton cloth is procured 40 inches wide. This is cut into strips 4 to 6 yards long. These strips are dipped in water and run through an ordinary rubber roll wringer. They are then folded in the center, lengthwise, making a long strip 20 inches wide. The collars and cuffs are now laid down upon the sheet in pairs (two pieces thick), leaving a small space between each pair. All are then rolled up tightly, and the several rolls are put into the press. It will be noticed that by this plan there is always two thicknesses of cloth between each pair of collars or cuffs. Another plan is to use a single thickness and lay the collars in singly. We think that more uniform dampness will be obtained by the first plan. For quick dampening the sheets are wrung dryer, folded in the same way, and the pieces laid in singly. If rolled sufficiently tight collars will dampen very nicely in ten minutes.

In dampening shirts the usual plan is to dampen one or both flaps, fold up over the bosom, folding in the sleeves. The shirts may be rolled, but the best plan is to put them into the press with the single fold through the centre. Perhaps a better plan is to use strips of

* Since the above was written, dampening machines have been very much improved, and are now quite generally used in the larger laundries.

cloth slightly longer and wider than the average front (bosom). These are wet and wrung out, then laid over the front and the shirt folded up as before. More uniform dampness is obtained in this way. Usually a slight sprinkling of the body in addition is necessary. It seems hardly necessary to add that the various sheets must be kept scrupulously clean.

The general custom is to dampen the cloths in cold water, but hot water is very much better. There is always more or less starch adhering to the surface. The cold water has the effect of spreading it and making it adhere so that it shows very plainly after ironing. The hot water distributes it or takes it up. Those who have used the hot water method pronounce it decidedly the best.

There are various presses offered for sale by the machinery dealer. A very good press is made as follows: A square frame of heavy timbers is made, having a floor or bottom, and with timbers crossing at the top. The goods are placed upon the bottom, a suitable platform or cover is put over them, an ordinary jack screw furnishes the pressure. The bottom of the screw rests upon the cover. The top of the screw comes against one of the cross timbers. By raising or lowering the screw the goods are pressed, or the pressure is removed.

Exhaust Steam.

There are a number of ways in which exhaust steam may be used. First, in heating the feed water for the boiler. This is almost always done, but as the exhaust is usually more than sufficient for this purpose it may be used for additional purposes. Second, for heating the building. As heat of this kind is needed only a small part of the time, this plan is not generally adopted.

Third, for heating the dry room. When this is done it is always best to have the piping so done that live steam may be used when necessary, as the exhaust may not always be sufficient. Fourth, for heating water. This is the most useful method of using exhaust steam in the laundry. An ordinary feed water heater may be used, the water being drawn directly from the service pipes. The most convenient plan, however, is the use of tanks. In fact, we should advise the use of tanks anyway. If a heater is used the water may be conducted to a tank, then the supply is always on hand when wanted and may be drawn more quickly from the tank than from the service pipes. The usual method is to place in the tank a coil of brass or copper pipe of large size, through which the exhaust passes. The inlet should be at the top and the outlet at the bottom. If the reverse plan is followed a suitable drip must be supplied at the lowest point of the exhaust pipe, to prevent clogging and consequent back pressure upon the engine. Another plan is to place within the tank a hollow cylinder made of brass or copper, and of considerable size. The cylinder is closed at the top and bottom, leaving at the top an opening for the vapor to pass through, and two openings at the bottom, one for the inlet of exhaust steam, the other the outlet for the drip. As there is large space for expansion and condensation, there is very little likelihood of back pressure, and the large radiating surface insures rapid heating. This plan is no more expensive than the use of coils, and on the whole more satisfactory.

The attempt is sometimes made to return the exhaust to the boiler, various condensers and oil separators being advertised as suitable for use in returning the exhaust. We are advised by eminent authority that none of these appliances have been very successful; that the attempt to return the exhaust usually results in serious complications. We certainly cannot advise it. The laundryman

who desires thus to utilize the exhaust would best investigate the matter very carefully before expending any money.

Gas.

The use of gas for heating flat-irons has come into quite general use. While there is no saving in expense, there is considerable saving in heat and in dirt. By all means investigate the merits of gas heating. The gas stoves arranged to be used without a blast of air from a blower are preferable.

Color.

The question of color is very largely one of taste. While you may find some among your patrons who like considerable blue, the great majority would probably prefer a pure white. The aim should be to use just color enough so that after the goods are starched and dried they will show a bluish tinge when held between the eye and the light.

Preparing Bluing.

A very good method of preparing aniline blue is as follows: Weigh out one ounce of the grain and tie up in coarse cotton cloth. Drop into one gallon of soft water, and boil for thirty minutes. Four ounces of acetic acid may be added if desired.

Carpet Cleaning.*

Those who wish to embark in the carpet-cleaning business will find the following hints of value.

In the selection of the proper machine one who has had no experience is likely to be led astray. Our experience has demonstrated to our complete satisfaction that the rotary machine is superior to all other designs.

The machine should be placed in a dry place, and the more heat that can be obtained the better, for the reason that the dirt lets go more readily and the carpet is less liable to shrinkage, and it cleans quicker and looks brighter when done. Grease spots, also, are less likely to show, as the heat softens the grease and thereby the dirt is released. It is not the grease that spots the carpet, but the dirt that is held by it. The machine should always be placed in a room by itself, the same being no larger than necessary for convenience. Suitable arrangements should be made for taking away the dust as it leaves the carpet. Exhaust fans are generally used for this purpose, the dirt being carried outside the building, or it is conveyed by suitable conductors to tanks containing water. In this way dust in the surrounding air is avoided. The tanks should be so arranged as to permit of convenient and frequent cleaning.

In getting carpet ready for the machine, care should be taken to note any defects. Frequently medicines containing acids are spilled upon the carpet and leave the pile and warp ready to fall out by mere handling. Often in house heating pipes are run under the floors, and in consequence the carpet becomes rotten or the back and nap burned so that little, if any, life remains in the goods, and the places will crumble and break in your hands. These weaknesses may generally be located

* This article is furnished by a gentleman who has had long experience in the carpet-cleaning business.—*Author.*

by carefully looking over the backs, as it will show a different color, and gives out a faint, cracking sound when handled.

Next we notice the salted carpet, which can be detected by the dark, glazed color of the warp and its extreme weight and stiffness. The trouble is caused by the housekeepers using salt when sweeping, the object being to brighten the colors. Such carpets always have a soggy, damp, stiff feeling, and are hard to clean and are brittle unless thoroughly dried in the sunlight or by artificial heat, and then cleaned at once. This class of work will shrink as soon as loosened from the floor, and will show rust where the tacks have been driven.

Next comes the wormy carpet. This is caused by the use of bread crumbs or corn meal in sweeping, or things of like nature to keep down the dust. There is more or less deposited at the bottom of the pile and close to the back, and if it is used wet, or in damp weather, the crumbs become infested with weavils, which grow and flourish, and after they are developed they are called carpet beetles.

Never keep carpets in a damp place, or where there are rodents, as many times the rodents will attack a greasy spot and damage it badly.

Be careful in giving estimates on carpets upon the floor. In many instances the carpets will be found doubled under, which, if not discovered in time, will decrease your profit.

The profits of carpet cleaning vary from 75% to 200%, depending upon facilities and management.

There is no good reason why a laundry business and a carpet cleaning business may not be run in conjunction. Care is, of course, necessary to prevent the dust of one from conflicting with the other. This may be readily done.

In measuring, always go by the running yard, no matter how wide or narrow the breadths. In other words, one yard of ingrain carpet is one yard long, one yard wide, while all hard-back goods are but twenty-seven inches wide.

Motive Power and Fuel.

To properly handle this most important subject the space taken by our whole work would be none too great. Therefore, we must satisfy ourselves with giving simple hints.

The mistake is often made of selecting the boiler and engine for the present rather than the future. For instance, the laundryman considers a ten-horse power boiler amply sufficient for present needs, hence, this is the boiler he buys. As his business increases he finds that this boiler, at normal pressure, will not do his work. The proper thing to do would be to make a change, but this means a loss of time and considerable outlay. False economy carries the day. The boiler is crowded in ever-increasing ratio, until, finally, this little iron shell is doing the work for which a boiler of twice the size is needed.

It must not be supposed that we object to a good, strong working pressure. Steam that leaves the boiler at say eighty pounds has more expansive force than steam at sixty pounds. For various reasons a high pressure is more effective than a low pressure hence more economical, but we must not pass the safety limit.

It should be remembered that the cost of boilers does not increase in proportion as the size increases. A small boiler, proportionately, costs much more than a large one.

Of course there is no wisdom in getting a boiler very much larger than one is ever likely to need. The aim

should be to have one sufficiently large to do the required work without crowding, and with a fair margiu for increased demands caused by the natural increase of business

The boiler should always be of greater capacity than the engine, especially in the laundry where so much live steam is used.

Having settled upon the size, the next question is cost or quality. If you wisb to procure your boiler and engine at the junk yard, that is your privilege. While it is true that a bargain may be sometimes so obtained, ordinarily the reverse is true. The first wear is the best.

In buying, we cannot be governed altogether by price. Oftentimes, if not always, very low-priced engines and boilers are an expensive luxury. Then, again, high-priced goods are sometimes sold upon the strength of reputation gained in years gone by, and may have a considerable margin in cost which is not represented in value received. The medium-priced goods may be equally good for all practical purposes.

If the buyer is not an expert, he must not take the "say so" of the seller, but rather will do well to call in the assistance of some one who has the knowledge he lacks.

Conditions vary so much in different sections that no specific directions as to fuel, applicable to all parts of the country, are possible. The laundryman should carefully investigate the merits of, and experiment with, the various fuels at hand until he is satisfied which is best for his use. Taking all sections together, we will find that for steam making bituminous coal is used more largely than any other fuel; and aside from the fact that in many instances waste products of factories, costing little or nothing, are largely used, this coal is the most effective and convenient steam-maker, therefore the most economical. Of course, here we have nothing to do

with natural gas, this gratuity of nature being available only within certain sections.

The mere fact that a coal is bituminous does not prove that it is in all cases an economical fuel. It varies greatly in quality and effectiveness, and some soft coals are so filled with sulphur as to be unfit for use under a boiler. The burning sulphur throws off sulphurous acid gas, which has an extremely injurious effect upon the boiler itself.

When anthracite screenings can be had at a low price, it can be mixed with the soft coal with economy. Sparks from the locomotive may sometimes be obtained by the mere cost of trucking. In that case it pays to mix with the soft coal, but you cannot afford to pay very much for them unless the price of coal is correspondingly high.

We are unable to give any valuable ideas as to the proper setting of boilers, as so much depends upon local conditions and the fuel to be used. The setting is, without doubt, a most important question, and one to be considered carefully. The idea in view is to get the full value of the fuel consumed. How this may best be accomplished is the problem for each to solve.

Generally speaking, the horizontal tubular boiler, set in a brick furnace, is the most economical steam-maker. There are a great many variations of this brick furnace. The best advice we can give is to study carefully the merits and demerits of the various forms before deciding which you will adopt.

The locomotive style boiler and the vertical should always be covered with some good non-heat-conducting material. The vertical may be set in brick to good advantage, the usual plan being to hang the boiler by suitable flanges and in such a way that the heat surrounds the shell before passing out through the flues.

Cold water should never be fed to the boiler; it is not only expensive, but wrong in principle. The market is full of feed water heaters; get the best.

In some cases the water pressure is sufficient, so that the boiler may be fed direct from the main; but, in addition, an inspirator or pump should be at hand, ready for use in case of emergencies.

The steam pipes leading from the boiler should be covered with asbestos or other suitable material.

The drip from the various lines of circulation, dry rooms, mangles, etc., should be returned to the boiler.

The placing of the steam plant is always dependent upon circumstances. The aim should be, however, to so place it that its energy may be conveyed to the various points of use by the least possible lengths of pipes, shafting and belting.

Finally, there is no economy in cheap engineers and firemen. Always employ in this department careful, competent and temperate men.

Ventilation.

Well-ventilated work rooms are wise, both as business policy and from a humanitarian standpoint. If help are cooped up in illy-ventilated rooms they will work in a spiritless way, and sickness will be prevalent. In the winter, with windows and doors closed, the air very soon becomes impure. In the summer, if doors and windows are open, no particular attention need be devoted to ventilation. But in many cases the doors and windows must be for the most part closed, otherwise the shop becomes filled with dust, flies, etc., etc. Just how much ventilation is needed and how it shall be accomplished is always dependent upon circumstances. It is always best when any particular work is to be done, to have some

one upon the ground who is an expert in the line of work to be entered upon. If the laundryman himself cannot "fill the bill," he must call in some one who can. This rule is especially applicable to any attempt at artificial ventilation. The laundryman who "goes it blind" will lose in the long run.

The most approved method of ventilation nowadays is by the use of exhaust fans. A given fan revolving at a certain rate of speed will remove so many cubic inches of air per minute. Hence the matter of ventilation when fans are used becomes one very largely of mathematical calculation. Here the expert is able to do the figuring better than the ordinary laundryman. He first ascertains the number of cubic inches in the room to be ventilated and the time that ought to be taken to entirely change the air in the room in order to insure a room constantly full of pure air, after which remains only the size and speed of fans and the location of the points at which they should be placed. The common custom is to place the fan in a window opening at the side of the room. If this is done the fan should be placed as high up as possible. We are aware that in ordinary ventilation the outlets are usually placed as low down as possible. The object of this is to avoid the loss of heat in cold weather. In the ordinary laundry, heat ceases to be a question of importance except to be gotten rid of, and the place to take it is at the top of the room. If we could place our fan in the ceiling at the center of the room, the value of the same would be very much greater than would be derived from it revolving at the side. A very excellent plan, and one that could be easily arranged in case of a new building, would be to have a large central flue running from the foundation floor out through the roof, to be used as a ventilator alone. The natural ventilation through such a flue would be considerable. The various openings would, however, conflict one with the other unless the

flue were of considerable size and carried to a sufficient height to secure a strong draught. In such a flue one fan placed above all rooms might be sufficient to secure ample ventilation for all the rooms connected with the flue. We apprehend, however, that such a flue will not be within reach of the majority, and the window opening will of necessity have to suffice. Even in this case a flue upon the outside of the building running from the fan to and above the roof, will very greatly increase the efficiency of the fan.

Nature abhors a vacuum. Hence as soon as we start our fan and the air begins to move out, there is an inflow through the various cracks and crevices. This may suffice, yet it is always best to supply inlets for the air. Usually small openings are made in the walls of the building near the floor line. These are covered with ordinary registers, which may be opened or closed at will. Such an arrangement in connection with the fan will usually be found sufficiently perfect for ordinary purposes.

After all, the great bugbear of the laundry is excessive heat. Perfect ventilation very much improves the conditions but does not totally eradicate the evil. What shall be done? In former times the only method in vogue of reducing temperature was by the use of ice, but to-day all this is changed. Our large meat packing establishments, breweries, etc., are kept cool by what is commonly called the cold storage process, which consists of circulating certain chemicals through pipes, which immediately and constantly give the result desired. We see no reason why some modification of this process might not be profitably used in the large laundries. We come now to the question of ventilating the drying rooms. Here again we find the same necessity for careful procedure and the need of expert knowledge. As is well known, in drying, the moisture which is in the clothing is taken up by the air and held in suspension. Air will hold a

given amount of water and no more. Hence when the air in our dry rooms becomes saturated the drying process ceases. Either we must remove the moisture from the air or we must remove the air itself, replacing it with dry air. While condensation is sometimes used and would be the preferable plan if air were expensive, generally speaking, some system of ventilation is, on the whole, best. It is, however, best to speak briefly of condensation. If we circulate water of a lower temperature than the surrounding air, through pipes of iron, brass, or copper, the moisture in the air will condense and form upon the pipes in drops sometimes called "sweat." It is evident, therefore, if we carry water pipes around the sides of our dry rooms we will secure the effect of removing the moisture from the air in the room. Where this plan is used conductors must be carried under the pipes to take away the moisture as it falls.

A more perfect method of condensation is to withdraw the air from the dryer, pass it through a condenser and carry it in again by the use of proper appliances, thus keeping up a constant circulation. The usual method is as follows: A series of perforated pipes are placed both at the bottom and top of the room, with connections extending outside. The pipes from above are connected with the pipes from below with a blast fan and condenser between. When the fan is started the air is drawn up through the clothing; taking up the moisture in its course, it passes out through the pipes at the top, is forced through the condenser, passing down and entering again at the bottom. If the apparatus is of the proper kind and of sufficient capacity, there is no reason why this is not a very effective way of getting rid of the moisture.

The drying room is constantly opened and closed. In this way very much is naturally accomplished in the way of ventilation. If the room itself is so placed as to be surrounded with dry air and is of sufficient size to make

overloading unnecessary (a dryer may be over-loaded as well as a washing machine), this natural ventilation will be found sufficient, the only necessity being plenty of heat.

A very simple method of ventilation is as follows: Small openings are made into the drying room at a distance apart of about twenty-four inches. These openings are connected upon the outside by suitable pipes with a chimney or other flue running to the roof. It is well known that as the air is heated it rises. After it becomes saturated it is claimed that the specific gravity is increased, and hence it falls toward the bottom; as the hot air rises it meets the falling current and the circulation becomes in a measure stagnant. The greatest amount of this stagnant air, it is said, will remain at a point twelve to fifteen inches above the steam pipes, increasing, of course, in density and thickness if it is not removed. Hence it is argued that these openings should be made at about this height. However much fact there may be in this theory, it is certainly true that ventilating pipes so placed have been found helpful. The ventilation should never be at the top, for the reason that in such an arrangement the air is likely to pass away too freely and there is consequent loss in heat.

Another plan of ventilation is to place the heat pipes above, instead of below, as is generally done. With such a method it is necessary to let in air above the pipes and force a downward draught by artificial means, a fan being used for the purpose.

There are also various other methods employed for creating a circulation through the dryers, many of which are purely experimental, and as no great efficiency is proven they are not mentioned here.

To sum up, then, we see that the desideratum in a dry room is plenty of heat and sufficient ventilation to secure a reasonably frequent change (or condensation) of the air. Beyond this no one need go.

In this connection a few general hints in the construction of dry rooms will be in order. One side of the room must of necessity be more or less open. All other sides should be as tight as possible (except the various ventilating openings where necessary). The usual plan is to make the ceiling and sides of two thicknesses of kiln dried sheathing with heavy felt paper between. The lining of the room with roofing tin is an excellent idea. It is also obvious that a room composed entirely of metal would have many advantages.

The vertical dryer, that is, one in which the racks work vertically instead of horizontally, is not very generally used. In case, however, of a lack of space, and in a room of sufficient height, this style of dryer may be used to good advantage. In such rooms the heat is generally applied at the sides, the bottom being out of the question and the top undesirable.

Agencies.

Very much of nonsense has been written regarding the matter of laundry agency business. The men in all sections of the country who have thought best to add to their incomes by conducting an agency for some laundry, have been called thieves, cut-throats, and various other pleasant names, and roundly abused in all manner of ways. Yet no part of the laundryman's business is more legitimate. No adjunct of the business, under proper conditions, is more agreeable or more profitable.

That grave abuses have crept into this part of the business is perfectly true, but the agent is in no wise to blame. The unsatisfactory conditions prevailing in many places are simply the result of the laundryman's cupidity and short-sightedness.

John Smith, the laundryman, becomes possessed of the knowledge that in a certain place there is trade to be had. Circumstances are such that he cannot go for this business directly. If not too far away, he may send his team upon the ground; but the expense of the driver and team is so great that the venture proves unprofitable. He then goes to the place, hires an office, employes office help and other necessary employes, and attempts to control the trade in that way. Again the expenditures equal or exceed the receipts. Finally he finds a man who is engaged in business. This man agrees to furnish the office room, help, etc., etc., and be responsible for all goods sent, the only expense to the laundryman being the cost of doing the work and a commission upon the work done. Surely no better arrangement could be made.

All goes well until Jones, a competitor of Smith's, goes to the same place in pursuit of trade. He finds the agent of Smith enjoying a good patronage. He reasons that a trade in the hand is better than a trade in the bush—to change a common proverb. Therefore, in order to get the trade, he offers to the agent an increased commission. Naturally, the agent accepts the offer of Jones. Smith again appears upon the scene and goes Jones one better, and so the sea-saw works until the laundryman's profit is gone. But for such folly we can hardly blame the agent. He looks upon the laundryman as one who has something to sell. Being a buyer, he places his orders where he can do so to the best advantage.

These agents are human. When a complaint is made to the laundryman, he knows how to meet it; that is a part of his business. If he is clearly in fault, he settles; if not, he understands what course to follow in order to satisfy the patron, yet without settling an unjust claim. With the agent the conditions are different. The complainant is a customer of his for other goods besides laundry work. He does not consider it for his interest to

straighten out the laundryman's tanglements. He does see the necessity of satisfying his customer; hence, he settles without investigation or instruction, and deducts the amount from his indebtedness to the laundryman. At first glance we must pronounce the agent unreasonable, but here also the fault lies with the laundryman. Again, we have the agent who looks upon the laundry agency as simply an advertisement for the benefit of his other trade. He reasons that it is a small matter any way, and if by making small prices he can increase the business and at the same time benefit his general trade he does not hesitate to do so. Here, again, we pronounce the laundryman at fault.

In the first place, the laundryman must decide upon the size of the commission he can afford to pay to the agent. Having settled this point, let him stick to it, come what may. Second: When he starts out to drum up agents, let him secure agents of his own; or, if he approaches the agent of another, let him do it legitimately. Possibly his regular discount in a given case may be greater than that of his competitor. We consider it proper in this way to *undersell,* otherwise not. He has yet the opportunity of urging the advantages of better work, less transportation charges owing to advantages in this direction not enjoyed by his competitor, more prompt service, less liability to mistakes, etc., etc. Failing in all these points, there is nothing left but a large cut in prices. If he be a sensible man, he will hesitate long before taking such a demoralizing step. Third: The laundryman should instruct his agent carefully in the course to pursue in the case of claims and complaints, and the rule should always be that no payments for such cause are to be made except by the order or consent of the laundryman. Finally, agency business should always be a matter of contract, the laundryman agreeing to all necessary things and the agent the same.

We append a form of agreement which seems to cover the ground:

AGENTS' CONTRACT.

This agreement, made this.....day of....., 189..., by and between....., of....., ..., and ....., of....., ..., witnesseth as follows:

I. The said.....hereby appoints the said..... his sole and exclusive agent for collecting, forwarding and redelivering laundry work in said.....for the term of .....from the.....day of....., 189....

II. The said.....hereby accepts the above appointment, and agrees as follows: 1. That during the continuance of this contract he will not act directly or indirectly as agent for any other person in the same line of business. 2. That he will, to the best of his ability, endeavor to build up as large a trade as possible. 3. That he will make shipments of work collected by him on .....of each week. 4. That he will make careful investigation into all claims for loss or damage to articles while in the hands of said....., and report promptly to said..... 5. That he will not settle any such claims until he receives instructions from said..... 6. That all moneys due for laundry work shall be paid over in full to said..... .....on the .....day of each month or within five days after he shall have received a statement from said.....of the amount due.

III. In consideration of the faithful performance of the foregoing agreement, the said.....agrees as follows: 1. That during the continuance of this contract he will not directly or indirectly appoint any other agent in said.....or receive any laundry work from any other agent or concern in said..... 2. That all work shall be done in a good, workmanlike manner. 3. That return shipments shall be made on.....of each week. 4. That he will promptly settle all just claims for loss or damage to articles while in his hands. 5. That the said..... ....shall receive.....of funds paid to said.....at the monthly settlements, the same to be in full compensation for his services as agent.

IV. It is mutually agreed: 1. That the prices to be charged for work shall be in accordance with the following schedule:

....

2. That transportation shall be via..... ...., and that the cost of the same shall be borne equally. 3. That if either party shall violate this contract

he shall forfeit to the other the sum of.....as a penalty. 4. That either party may terminate this contract by thirty days' notice of his intention so to do, or by paying to the other the sum of.....dollars.

Witness our hands to this instrument and a duplicate hereof the day and year first above written.

In the presence of { .....
.....
.....

Advertising.

This is a subject that, generally speaking, receives little attention from laundrymen. John Smith (we trust he will pardon our frequent use of his name) says: "Why, here I am, busy, doing about all I can do. Where is the sense of my spending money in advertising?" But John is wrong. Supposing we should say to him: "Now, Mr. Smith, you are doing a business of $500 a week. Do you mean to say you are not competent to handle a business twice as large? Would you not be glad to do it, if you could?"

"Oh, yes, certainly; but don't you know, I don't believe advertising will do it." Perhaps not, but let us look at some of the most successful business men of the day. What has made them? Advertising, well backed up by business ability. Take, if you please, two rival concerns of equal capital and comparatively equal chances every way. One advertises liberally and judiciously, the other does not advertise at all, or, if at all, spasmodically and with poor judgment. Which house has the greatest success? The first, of course. There is no chance for argument here.

In order to advertise judiciously we must have something to advertise. The laundryman must have a good laundry and do good work. Be sure of these points

before you advertise very largely. The advertisement brings you the customer. The quality of your work keeps him or disgusts him as the case may be. In the latter case the money expended for the advertisement is worse than thrown away.

Now, how shall we advertise? We have seen that Mr. Smith claimed not to be a believer in advertising. Yet he advertises every day. There is the sign over the door. Make it neat and legible. There are his teams going up and down the streets. All these things are advertisements as well as business necessities. A man cannot do very much business without advertising to some extent. Be careful that your advertisement is not a bad one. A broken-winded old horse may do you incalculable injury. A ramshackle wagon is as bad a card as though it were lettered, "This is the delivery wagon of the Shiftless Laundry." An untidy, shiftless, surly driver is an exceedingly bad advertisement. Have a good, wholesome, well-fed horse, respectably harnessed, drawing a neat, clean, attractive wagon (extravagance is not necessary), driven by a gentlemanly, energetic fellow in a neat uniform.

After a careful study of this question extending through twenty years, we are satisfied that the best advertising medium at hand is the newspaper of recognized standing. When we come to manner and methods there is a large divergence of opinion. Our own opinion is that a short, concisely worded advertisement, set up in plain type, is better than a whole page of display. Say what you have to say in as few and striking words as possible. It may be well to do a little *fooling* in the first few lines, but get down to business as soon as possible. Striking illustrations as headings are much used and have considerable value, providing they are so drawn as to *say something*. Study originality. This is a large question and one for every man to study. We will close with

a few illustrations and the advice to keep your advertisements going all the time and change frequently.

SPECIMEN ADVERTISEMENTS.

NO

one will dispute the fact that for healthful washing pure water is essential. Our artesian well supplies just what is needed. This is

ONE

reason why we excel in cur line of trade. Of course, there are other reasons. Our new collar and cuff apparatus is superior to anything heretofore used. No one

ELSE

has it or can have it, for we have exclusive rights in this section. This is also true of our system, the result of long experience. We do not give it away.

HAS IT

occurred to you of late to try our work? Some say they can get satisfaction nowhere else. Remember, there is no charge connected to our collection and delivery system.

Telephone, 2116. SMITH'S LAUNDRY, 110 Tenth St.

Whang Goes the Door Bell.

Mary Ann brushes the bread dough from her brawny arms and rushes to the door, expecting the postman and a sweet missive from Teddy the "Cop." The smart young man standing upon the step inquires, "Can't we do your laundry work?" "Indade," says M. A., "I duz me own, and the master gets his dun at Smith's Laundry. 'Tis there ye gits the foine work."

SMITH'S LAUNDRY, 110 Tenth St.

ZANZIBAR, AFRICA, December 10, 1889.

Smith's Laundry, Breakwater, N. Y.:

DEAR SIR—When summoned to go in search of Emin, I left your section in such haste as to entirely forget my clean linen at your laundry. You were very thoughtful to forward the same. The package reached camp during my absence, and the various garments were appropriated by the natives (with them a little clothing goes a good way). When I return to America, you shall have all my patronage. I know of no other place where I can get so satisfactory service.

Yours truly, STANLEY.

SMITH'S LAUNDRY.

Day Work versus Piece Work.

The relative merits of the day work and piece work methods of paying wages are something as follows:

In day work the ordinarily good hand will do satisfactory work without inspection, but will need to be watched in order to secure a good amount of work. In piece work there will be need of careful inspection only. In the large shop, where each hand has his or her special work to do, the piece work plan will be preferable; in the small shop, where help are expected to make themselves generally useful, the day work plan is usually adopted.

The rate of pay per day, of necessity, has no fixed quality, ranging all the way from 50 cents to $3.00 per day. The average price for a good washer would be $1.50 per day; starcher, $1.25; plain ironer, $1.00; fancy ironer, $1.25 to $1.50; shirt ironer, $1.50 to $1.75; office help, $5.00 to $8.00 per week; bookkeeper, $10.00 to $18.00 per week; foreman, $12.00 to $18.00 per week; forewoman, $8.00 to $12.00; sorters, $1.00 per day to $10.00 per week; packers, 75 cents to $1.00; good mangle hand, $1.25; operator of ironing machine, $1.00 to $1.75 per day.

Piece work prices: Finishing shirts after starching machine, 5 to 6 cents per dozen; starching shirts by hand, 8 to 12 cents per dozen; finishing collars after starching machine, 8 to 12 cents per hundred; starching collars by hand, 4 to 5 cents per dozen; finishing shirts after ironing machine and body ironer, 50 cents per hundred; after machine alone, 1 to 1½ cents each; ironing shirts by hand, 3½ to 7 cents (stock) each; ironing bosoms, neckbands and wristbands upon the Tyler or similar device, 1½ to 2 cents each.

Work for Employees.

There should be some well-understood arrangement to govern the work done for employees. If there are no restrictions this class of work will grow and flourish. Probably the best plan is to have a regular price list for such work, being careful not to charge very much in excess of cost.

Care of Machinery.

Too much care of machinery is impossible. The more careful attention a machine has, not only the better work will it do, but the longer it will wear. Have all the running parts often wiped, keep the oil inlets open, oil frequently instead of profusely; a drop in the right place is better than a quart put on haphazard. Hot bearings (as in the case of ironing cylinders) should be oiled several times a day. To clean washing machine headers, spray thoroughly with live steam through a hose. Sometimes the headers are taken off and boiled for a few moments in soda water. This is a very effective method, but unnecessary if proper care has been taken.

Cleanliness.

It seems hardly necessary to say to laundrymen that a clean laundry is essential to clean and satisfactory work. Yet there are laundries in which very little attention is bestowed upon this fact. We may almost say, the cleaner the shop the better the work will be. At all events, it is evident that good work is more likely to be done in a clean place than in a dirty one. It is also true that absolute cleanness and neatness about the shop

exerts a salutary influence upon the help employed. Let neatness be insisted upon and the help will naturally fall into neatness in habit, while in a dirty shop the reverse is quite likely to take place.

Sometimes we find laundries where everything is neatness until we reach the wash room. There filth and bad smells reign supreme. Yet no room is more easily kept clean and sweet, providing proper arrangements are made at the start. Nothing is so good for a wash room floor as cement. This should be of good quality, of considerable thickness and properly laid down. Then by having the floor slope to a common centre at which place the drain is placed, or by sufficient and suitable gutters sloped in like manner, an occasional use of the hose keeps everything sweet and clean. There is no objection to laying the cement over a wood floor, providing the floor is firm.

It is the custom in some laundries to have each hand keep the part of the shop which he or she occupies neat and clean. The same rule applies to the machinery and apparatus used. This plan works very well in many cases. Yet in large shops it is doubtless best to employ one or more persons whose sole business shall be cleaning up.

Shiftless and sluttish habits are entirely out of place among laundry employes. As we have seen, cleanliness about the shop has an influence against such habits, but we should go a step beyond that. First, we must insist upon cleanliness of person. Second, we may very properly have our say as to what the dress should be.

The custom of uniforming employes, has of late grown to be general. Laundrymen have taken up this idea as far as drivers are concerned. We see no reason why this custom may not be carried advantageously to every department of the laundry. The proper dress for the various departments will at once occur to every experienced

laundryman. We are very sure that to act upon the suggestion here offered will result in satisfaction.

Insurance.

The benefits of insurance are so generally recognized that very little need be said upon the subject. Yet there are many who, in this matter, "take the chances." The argument is something as follows:

"I have been in business ten years. I have never had a fire; furthermore, I do not intend to have. I am always here. I keep a close watch of everything. I have pails full of water upon every floor, hose connections here and there, with the hose all ready coiled for use; in different parts of the shop I place fire extinguishers. Every night before I go home I make a tour of the building to see that everything is all right. Why, then, should I pay out large sums of money every year for insurance?"

Why? Well, just for this reason: With all your precaution fire may come, perhaps (and probably) from circumstances over which you have no control. Then your insurance comes in handy, does it not? In other words, without insurance you *are* taking chances, with insurance you are not. Cannot you afford, then, to pay the sum necessary per annum to be upon the safe side?

Your precautions are excellent, and would be wise even if fully insured. No one wishes to burn out just because there is insurance money to be gotten, at least no laundryman who is doing a prosperous business does. Your insurance may cover the loss on building, machinery, fixtures, etc., but it does not cover loss of time and loss of business. Therefore, all possible precautions against fire are wise.

Heretofore, and to a large extent at present, laundries are considered hazardous risks. This comes from the fact that many laundries are so located as to be in especial danger from fire, and because of the hot fire commonly present. Nowadays we ought to be able to secure as favorable rates as in any other line of trade. The great majority of laundries have come out of the dangerous locations, and are in comfortable, safe buildings. In the present method of building drying rooms, the element of danger is reduced to the minimum. It would be entirely eradicated, but for the fact that all wood work in and about the dryer becomes so thoroughly seasoned as to be very susceptible to fire. For instance, a laundryman whose dry room is in a dark place, dropped a small piece of lighted paper into the room to give him a moment's light. In an instant the bars were in a blaze. Under ordinary conditions of wood work it would have taken considerable paper to start such a fire.

The red-hot coal stove has been given up very largely and the comparatively harmless gas stove takes its place. There have been also various other innovations, so that to-day the laundry is comparatively free from dangerous conditions. Insurance men ought to understand this and make our rates accordingly.

The insurance of patrons' property is not advised. There is no legal responsibility resting upon the laundryman. Of course, in case of fire he will probably consider it best to settle where the demands are reasonable. Circumstances are likely to arise in which he will find it quite convenient to fall back upon the fact that he has no insurance. Upon the other hand, he will be likely to carry insurance enough so that he can settle in such cases as he cares to do so.

Combination versus Competition.

There has been, during the last few years, in almost every line of business of a mechanical or manufacturing nature, more or less discussion of the relative merits of competition and combination. In many lines competition has become so great that it has become necessary to find some relief from it, and as a result many firms competing in the same territory for the same business have decided to lay aside the sword, and, burying their differences, have joined hands, put their different plants together, and their business under one management. This we have seen done in many of the large industries of the country, and it has been carried to so great a length among corporations controlling the railroads that a large proportion of the mileage of the country is controlled by comparatively few corporations. At the annual meeting of the Laundrymen's National Association, held in Buffalo in 1889, a paper was read in which the writer took a decided stand in favor of combination. His argument was that by a division of the work, or a striving for it by many different competitors, a large amount of unnecessary work was done, as each small concern was obliged to cover the same ground and keep practically the same force of overseers, managers, etc., that one large concern would do that could handle the combined work.

During the last year there has been several combinations among laundrymen in different cities, possibly in some cases as a result of the paper above mentioned. What success has attended these combinations we are unable to state. Probably some have done wisely in combining, while others might better have kept on in the old way. That under favorable circumstances such arrangements can be made a success, we have no doubt. That in many cases a saving in expense can be made, we believe, and when the parties coming together are equally

inclined to work, are so constituted that one is adapted to doing the inside work, while the other is just the man for the outside; when they both are men of like experience and are adapted to pulling together, there is no doubt that it is sometimes a wise thing to combine. That two competing laundrymen can put their business together and hold all their trade, we do not believe. That a move of that kind is apt to arouse the jealousy of others in the trade, is probably true, and is apt to give such a chance to steal the trade, on the ground that combinations savor of the spirit of monopoly. There is always more or less of a "break in business" during the time of removal, which will usually cause some bad work and disappointment to customers, and we all know what that means.

The writer of the paper above mentioned argued that there would be a considerable saving in doing work in large quantities over the cost of handling it in a smaller way. We do not think there is as much of an advantage as some would imagine. We think it true that the percentage of cost of doing starching and ironing in a laundry which is properly conducted, that does a weekly business of say $400, is no more than in one doing $1,000. While there may be some advantage in quantities, we think there are possibly some disadvantages which will offset them. In other departments, those of gathering, managing, office work, etc., the laundry doing $1,200 a week will probably have a smaller percentage of expense than three laundries doing $400 each. Like everything else, there are arguments both for and against, and after all is said and done we believe that the question of adaptability to each other by those contemplating such a move is one that outweighs all others.

NOTE.—This chapter is very kindly furnished by Mr. L. E. Hastings, of Indianapolis, Indiana.* Those who heard at the Buffalo convention the able paper of Mr. Hastings upon this subject will note something of a change in his opinions. Then he seemed to be a strong advocate of combination, showing conclusively the great saving in cost and otherwise arguing strongly in its favor. Since that time he seems to have seen disadvantages, and is to an extent opposed to combination. However, we believe the laundry business of the future is likely to be done by combinations or large corporations. This seems to be the industrial trend of the age. The right method of combination is yet to be decided upon. If competitors in business in a given city unite their business in a common laundry in which each has some part of the management at a large salary, which is the system followed in at least two instances, the result is not likely to be satisfactory.

We are inclined to believe that the most promising outlook lies in the following direction:

Let the competing laundrymen in any city erect and fit a laundry—entirely new, using none of the plant of either one unless bought outright—the whole being paid for and carried on as a joint stock corporation, and the management being by a disinterested superintendent. Now the several laundrymen will continue their business as before, keeping their offices, teams, etc., etc.; in short each will carry on business as before, save only that all work collected is turned in and done at the common laundry, each laundryman taking his work when done, paying a uniform price for the same and delivering it to his customers and receiving his compensation therefor. At stated times the books of the corporation are to be balanced. If a gain is shown a dividend is declared; if a deficit, it is provided for by a stock assessment. While

*Deceased.

the corporators, *i. e.*, the laundrymen, may properly hold official positions, and, in fact, must do so, they must not be allowed to run the laundry except as a board of directors and without salary, the superintendent always being a disinterested person; that is, with no more loyalty to one corporator than to all.

This is the plan in the rough. It is evident that a large percentage of saving in expense would be effected and the many faults of modern competition would correct themselves.

Claims.

Claims are the burden of the laundryman's life. If all claims were just, no fault could be found; but, in point of fact, most claims are unjust.

First—We notice the man who claims that his goods are not washed clean; yet this man gets his goods so fearfully soiled that to perfectly cleanse them is well nigh impossible. The author once remarked to a customer of this kind: "That shirt when it came in was the dirtiest I have ever seen; it is impossible to thoroughly clean such a shirt without spoiling it." "I don't see how that can be," was the reply; "I only wore it a week." This man was a railroad brakeman, wore a white shirt a week and expected the laundryman to return it spotlessly white.

Second—There is the man who is always short; he gets all he left, according to your books, but books are of no account. What will you do with such a man? You may succeed in convincing him of his mistake. You say: "Now, look here. We are fallible and might make a mistake, but our system is such that we ought to discover it if we do. Note upon our book your name, your address, your pieces and the mark upon the pieces. Our work is all run in small lots. Now, granted that we

may make a mistake in making your list, leaving off a collar or a shirt, when that lot is sorted we will have that collar or shirt left on hand; this is almost an absolute certainty. What do we do? Why, simply go to the book and ascertain whom that shirt or collar belongs to, find the bundle, correct the list and put it in, or, if we do not do this, we will have the goods left on hand. Again, the person who handles your goods has done so week after week and has become perfectly familiar with them. This reduces the liability to mistake. Now, of course, you will admit that we have no desire to beat you out of a shirt or collar. We have no market for second-hand goods, and the price for laundering is of more value to us than the garment you claim. Is it not evident, in view of all these facts, that you are mistaken?"

"No, there is no mistake about it. You owe me a shirt and you must produce it or settle." This is the usual result of your clean-cut argument. Which will you do? Nine times out of ten the crank is mad and will leave you anyway. A settlement is not sure to retain him as a customer, and if it does he is just as ready to kick next week and perhaps more so. But you may try this plan: "My dear sir, I am positive you are mistaken, yet I would not for the world let you go away thinking that I have defrauded you. I wish to retain your valuable patronage. Now, I propose to settle. Take some of these lists and make one out yourself with each lot you send. When the goods come to us, if we cannot make our account agree with yours, we will notify you at once. This will not be much trouble and will be satisfactory to you and to us. Then if we fail to return everything according to the list, we will settle at once without argument."

Third—We notice the man who does not know his own goods. He is always returning something as not his. You say: "Here is the mark. This is your size." "No"

I never had such a garment. I did not put the mark upon it. I don't care anything about the marks any way. I want my own goods." What will you do with this man? He is a hard customer. We confess that after years of experience with him we have given him up as a bad job.

Fourth—The man who always returns his worn out goods and demands to know what you use to damage goods, and a settlement. He never owned an old collar in his life and is not aware that collars and cuffs wear out. The dialogue is something as follows:

Kicker: "Look at these collars. They have only been washed twice and they are all in pieces. What do you use to rot goods out in this way? Now I want you to settle."

Laundryman: "My dear sir, I am sorry you have had so much trouble. The only way out of it as far as I can see is for you to buy better goods in future."

K.—"What do you mean? These collars cost me twenty-five cents each, the best I can buy."

L.—"I can't help that. You say the goods have only been washed twice. Now if that is true, and I do not wish to doubt your word, the inevitable conclusion is that the trouble is in the goods. Why, if we ruined collars in two washings we could not do business a month."

K.—"Well, I can't help that. These are new goods and you have rotted them out."

L.—"Now, my friend, is it not possible that you are mistaken? Note in the first place the trade marks. These marks are indelibly printed upon the collars. But you see they are nearly faded out. It takes a good many washings to do that. Again, here are our marks. The ink we use is perfectly indelible. You cannot remove it by any chemical I know of, and yet it does fade after repeated washings. When the mark becomes indistinct we renew it. Notice this collar. It has four different marks upon it. This shows that it has been to the laun-

dry at least four times. You said two. This shows that you are so much mistaken, don't it? In point of fact, each one of those marks stands for several washings. Probably this collar has been through the laundry twenty times."

K. (beginning to relent under the power of your logic) —"Well, I may be mistaken as far as that collar is concerned, but here is one that has only two marks, and several have only one. These are new anyway."

L.—"Well, I know you are mistaken. The markers are governed by the aspect of the marks. Some look brighter and last longer than others. For instance, none of the four marks on this collar are faded out. The girls simply wanted to be on the safe side. With these others the mark has stood better than on the others. Perhaps at the time they were marked they laid some time before going to the wash. This makes a difference. Did you ever have a collar wear out upon your neck? No? Well, you must admit that collars are going to wear out sometime, and where, pray, but in the washing? You send a collar to the laundry. It looks like a good collar, but in point of fact it is just ready to go, and when the retaining starch is removed it goes, and the laundryman returns it in installments. Goodness knows he don't like to do so, but how is he going to help it? You are deceived by appearances. Time flies. You have had these collars longer than you supposed. To convince yourself, try an experiment. Buy a half dozen collars, bring them here and I will put your name and date upon them, then when they are worn out, if you are not satisfied that I am right and you are wrong, I will settle."

This is a somewhat lengthy dialogue, but how else can you hope to convince the kicker, and even with all these knock-down arguments you are likely to fail.

Chinese Competition.

The tendency among laundrymen has been to look with contempt upon Chinese competition. There is no very good ground for this contempt. If we were to carefully take a census of the laundry business of New York City, for instance, we would probably find that the Chinese are handling fully one-fourth as much money as are the American laundries. If we cut out what we call mangle work, the percentage of the Chinamen would be very much greater, possibly fully 50%. While it may be true that some of the Chinese patronage is undesirable, this criticism does not apply to the bulk of their trade. Therefore there is no good reason why laundrymen should not be awake to the consequences of Chinese competition, and as a whole, thoroughly anti-Chinese. In fact, we believe that all good citizens without regard to their business, should be anti-Chinese, for it is proven beyond all question that the presence of Chinese in this country is an economic stumbling block in the way of common prosperity. It is not our purpose here to argue the Chinese question. We simply take the facts as they are and inquire, what are we going to do about it?

Those who have given much study to this question find plenty of evidence that public sentiment is undergoing a change, that the anti Chinese sentiment is spreading. Possibly the growth of public sentiment will in time become so general that Chinese competition will languish for want of patronage, but this time, if it comes at all, will be long delayed. In the meantime we are not satisfied to fold our arms and resign ourselves to patient waiting.

It is pretty clearly demonstrated that the laundrymen, standing alone, cannot afford to wage war against the Chinese. There are in every community people who are strongly pro-Chinese. For the most part these are

excellent people. They are governed very largely by sentiment, mistaken sentiment, we must needs think, yet this does not make the fact of any less consequence. As soon as the laundryman fires his first gun in the anti-Chinese campaign he antagonizes these people, and the business man who is in a large measure dependent upon the public for support cannot afford to antagonize any considerable number of people in the section from which he draws his patronage.

What a man cannot do, may be done by a body of men. Hence we say that while the individual laundryman is powerless, by combination of laundrymen much might be accomplished. It is to be regretted that there is no organization at present existing among laundrymen that has the power, ability or disposition to properly take up the warfare.

The author took occasion at the annual convention of the Laundryman's National Association (Buffalo, 1889) to offer a plan for fighting the Chinese. This plan was not adopted, but as we believe it to be correct in principle a brief outline of the plan will be given here.

It was assumed in the first place that the salient facts were as has been stated, and in the second place that the laundryman's hope lay in the education of the people to a proper knowledge of the Chinese question, hoping to prove conclusively that the matter is not one of sentiment, but one of importance, not only to the life of an important industry, but to the industrial life of the republic itself, and in addition a social and moral problem of no little moment.

It was proposed that a bureau be established to collect and print in convenient form for circulation and in large quantities, matter relating to the Chinese question, of such tenor and backed up by such statistical facts as to carry conviction to the reader, free from all demagogic utterance; sober, sensible and convincing.

The next step would be for the laundryman to send to the bureau the names of such people in his section as he wished. To them would be mailed the circulars, and a bill would be rendered to the laundryman for actual cost of printed matter and postage.

The advantages of this system are obvious:

1st. The value of the material collected.

2nd. Economy.

3rd. The ability of the laundryman to cover his field secretly. The circulars being mailed direct from headquarters, if any prejudice were aroused it would not reflect upon the laundryman.

Covering of Machines.

The absorbing drums or surfaces of ironing machines need careful attention. The covering may be too hard or too soft; in either case the best results are not obtained. The covering should always be compact and tightly drawn on; it should be slightly yielding to the touch—perhaps "mellow" would be a good word to use.

The usual plan is to use sufficient of cotton flannel to get the required softness and cover with two or more thicknesses of unbleached cotton cloth. The cotton flannel packs very quickly and soon becomes as hard as the cotton cloth. It should be then removed and washed (*i. e.*, shrunk) and drawn on again, with the addition of as much new as necessary. After a few washings the old cloth ceases to be of benefit.

In some cases heavy cotton warp cassimere is used. This is expensive, but if taken off frequently and shrunk it will last a long time.

Cheap wool blankets are frequently used. These also require frequent shrinkage. Perhaps the most convenient and economical of all coverings is the table felt sold by

all dry goods dealers. This makes a very fine ironing surface and lasts well.

Whatever the covering used, it is generally considered well to change frequently. The old coverings are washed, and such as are good may be used again, while the more or less worn out may be utilized for other purposes.

Disinfection.

Goods coming from buildings in which there is contagious disease should be disinfected before handling. Subjecting them to the fumes of burning sulphur is the most approved method.

Remedies.

In a laundry where a large number of people are employed something is happening most of the time. Some one burns the hand, or has a headache, or gets caught in the mangle or something of the kind, and so the complications are frequently arising.

In case of severe accident the best thing to do is to summon a physician at once and have the patient removed to home or hospital, but little hurts and minor ailings may be attended to on the spot, and perhaps the temporary loss of help be prevented.

Burns are perhaps more frequent than any other trouble. The application of kerosene oil will usually give immediate relief. A cloth dipped in a bi-carbonate of soda solution and wrapped around the burn will also give relief, but not so quickly as the oil. For severe burns wrap with cotton saturated in sweet oil.

Headache will usually yield to a dose of four grains of anti-febrine. This is a powerful drug, and larger

doses should not be given. Bromo caffeine is also used for headache. For sick headache, nausea, etc., etc., use phosphate of soda, a heaping teaspoonful dissolved in a cup of hot water. For toothache and neuralgia frequent applications of peppermint. For cuts, bruises, lameness, etc., use extract of witch hazel. The same is an excellent remedy for inflammation of all kinds, especially for sore eyes. For use in the eye it should be diluted about one-half. Pain from jams or bruises (dropping a flat-iron on the foot, for instance) may be helped by wrapping in cloths wet in hot water. For summer complaint use Humphrey's Specific No. 4.

Not having made a study of the art of healing, we are unable to extend the list. The advice, however, is given to laundrymen to study up in these matters.

A Portable Laundry.

As we learned in a previous chapter, the doing of family work at a profitable price has been something of a problem to laundrymen. Even if satisfactory prices may be made, there are yet difficulties to overcome. The work is bulky and very much room is needed. The labor of marking and sorting is considerable. Then again there is the prejudice of many people to overcome. No doubt very many more people would send their work to the laundries if they could be satisfied as to the methods employed. Some fear the wear and tear upon the goods, others dislike the idea of having their clothing washed in common with that of other families, and so the reasons multiply. It is no doubt true that if people could be satisfied that their work could be done satisfactorily, cheaply, etc., the patrons of the laundry would rapidly increase.

The great dread is the discomforts of wash day. The majority of families would prefer to do the ironing at home, while any economical and convenient way of escape from wash day would be freely embraced.

A Yankee recommends to the attention of laundrymen what he calls a portable laundry. A suitable vehicle is provided upon which is placed a small boiler and engine, the former preferably fired with coal oil, naphtha or some similar fuel. In addition there is a washer, wringer, and other necessary apparatus.

In the morning the vehicle starts out. Coming to the residence of customer A, attachment is made to the house water supply. Steam is gotten up, the wash brought out from the house and weighed, washed and wrung. Payment is made, and the laundry moves on to customer B, and so throughout the day.

We observe in the first place that the laundryman escapes both the labor of marking and sorting, the work is all done by weight, and in the second place the various prejudices of the housekeeper are all overcome at once. It may be supposed that the idea of the portable laundry is brought forward as a joke. This is not the case. The idea is thrown out with honest intent, and as worthy the consideration of laundrymen, nor do we see any reason why the idea is not feasible.

Some one will say that inasmuch as the family wash day comes on Monday, and as the majority of families prefer to have the washing done and out of the way early, the laundryman must needs have several laundries or else his patronage could not extend to more than a few families.

Why is Monday wash day? Why not Tuesday, Wednesday or any other day? There is no good reason for the present custom except that it is custom. The American people are quick to appreciate innovations, and we venture the statement that the portable laundry once

started will find patronage the week through. It must, however, be systematically managed. The list of customers must be arranged in their proper order, each customer being attended to upon a given day and hour each week.

Points.

Laundrymen are bothered, and no doubt lose trade from the fact that customers often forget just how long their goods have been in use. For instance, a customer may return a collar which has outlived its usefulness and claim that the said collar has been washed but two or three times. The laundryman knows that the customer is mistaken, but finds it difficult to convince him of the fact.

We must assume that these people are upon the whole honest, and if we have anything in the way of proof that is convincing, we may be able to satisfy them. We are unable to hit upon any plan to accomplish this purpose aside from the following:

Upon every piece, in addition to the regular mark, let the marker place a dot, that is, a dot each time the goods come to the laundry. These dots need not disfigure the goods, and the number of dots show the number of washings. Of course this plan entails considerable extra work from the fact that ordinarily not more than 25% of the pieces require marking, while to make a success of the dot system each piece must be dotted each time it comes to the laundry.

It is evident that no especial skill is required to place these dots upon the goods. Besides, the work may be done very rapidly. Hence one or more cheap hands may be engaged for this especial work. A smart young girl at fifty cents per day would be able to do the dotting for a large business.

Imagine the customer returning a collar with the customary claim. You are able to show him by the dots that the collar has been washed twelve, fifteen or twenty times.

If thought best, attention could be called to the dots by printing upon the list. Then the customer by referring to them would know how his goods were wearing.

One ounce crude carbolic acid, one quart coal tar, well mixed, is said to make a good marking ink.

To each gallon of hot starch add one tablespoonful of pure lard. Mix while cooking. Imparts a high gloss to the work.

One-half pound pulverized borax, one-eighth pound caustic soda, one-fourth pound stone lime, mixed in ten gallons of water, is said to make a good bleaching mixture.

To whiten lace curtains, to ten gallons water add one-half pound of borax.

STARCH GLOSS.—One pint glycerine, one pound oxide of zinc, one pound precipitated chalk, one pound white glue. Rub zinc and chalk together, mix glycerine and glue together. Then mix all.

Pulverized gum arabic is sometimes used as a starch gloss, or equal parts of gum arabic and borax.

Chlorate of potash mixed with three times its weight of common salt, and diluted in water, is sometimes used as a bleach.

A Good Blue.—Seven parts of oil of vitriol, in glass vessel (or stone jar); add gradually one part powdered indigo, stirring the mixture at each addition with glass rod. Cover for twenty-four hours. Dilute to one gallon with water.

Cement for leather may be used for joining belts. Gutta percha dissolved in bisulphide of carbon until thickness of molasses. The parts to be joined must be well thinned down. Spread the cement on both ends, hold over the fire for a moment, then hammer well together. Keep cement in corked bottle in cool place.

To get the best results from belts they should be washed and oiled once a month. Use fish oil four parts, lard or tallow one part, colophorium one part, wood tar one part.

Mucilage for labels is made as follows: Macerate five parts good glue in twenty parts of water for twenty-four hours. Add twenty parts rock candy, three parts gum arabic.

To make a good toilet soap, melt one part of olive oil soap with three parts of pure neutral soda soap. Scent according to taste with oil bergamot or other essential oils or scents. When cool cut into bars. Will be necessary to use a little water in the melting.

In setting machinery upon wooden floors cover the space to be occupied with zinc or galvanized sheet iron. This prevents the waste oil soaking into the floors and also makes it easier to keep clean around each machine.

Some starches are naturally thick and others thin. A thin starch, generally speaking, is best for laundry use, as it works into the goods more readily. Now if we take a thick starch and obtain thinness by reducing the weight, we lose in strength and our work is not likely to be satisfactorily starched. A better plan is as follows:

For every five (5) pounds of starch use one teaspoonful of powdered alum, stirring in the alum after the starch comes to a boil. This will make the thickest starch thin and convenient to use, while it takes nothing from the strength of the mixture.

To Make Colors Fast.—Prepare a solution of sugar of lead in suitable vat or tank by dissolving one ounce of crude sugar of lead to each gallon of water. Soak goods one to three hours before washing.

High Finish.—While the medium or domestic finish is generally used by the best trade, a high gloss seems to be desired by the majority. Finish is more a matter of manipulation than of ingredients in the starch. Usually for the best results in high finish the reciprocating ironing machines will be most desirable. The objection is urged that they are too slow; that is, their capacity is so small that the large laundry must use many of them in order to promptly handle the work. The rotating ironer requiring two operators because of its great capacity is the most economical machine to use. In these machines the pressure is usually applied by the means of weights and "rocker arms." Finish is largely a result of pressure and friction. If the hot roll moves five or more times as fast as the padded rolls, it would seem as if the friction necessary was fully supplied; hence, if the finish is not

sufficient, we may safely conclude that the lack is in pressure. In fact, we have proved this by experiment. We incline to the opinion that in this class of machines the pressure may be safely increased by additional weights. The weights should be movable, so as to be put on *after* the pressure is applied, as the lever is not designed to lift more than the ordinary weight.

To ascertain the capacity of tanks, multiply the square of the diameter by the decimal 5.873, and the result will give gallons for one foot in depth.

To find the length of belts, add the diameter of the two pulleys together; multiply by 3⅛; divide the product by 2; add to the quotient twice the difference between the center of the shafts. The product will be the required length.

RULES FOR CALCULATING THE SPEED OF DRUMS OR PULLEYS.

PROBLEM I.—The diameter of the driver and driven being given to find the number of revolutions of the driven:

RULE—Multiply the diameter of the driver by the number of revolutions, and divide the product by the diameter of the driven; the quotient will be the number of revolutions of the driven.

PROBLEM II.—The diameter and revolutions of the driver being given to find the diameter of the driven, that shall make any given number of revolutions the same time:

RULE—Multiply the diameter of the driver by its number of revolutions, and divide the product by the number of revolutions of the driven; the quotient will be the diameter of the driven.

PROBLEM III.—To ascertain the size of the driver:

RULE—Multiply the diameter of the driven by the number of revolutions you wish it to make, and divide the product by the revolutions of the driver; the quotient will be the size of the driver.

In case a domestic finish is desired, it may be obtained in several ways: 1. By wiping off the gloss with a damp cloth. 2. In rotary collar ironers the gears may be so arranged that the hot roll shall move by friction, or the machine may be run extremely slow, with well-padded rolls. 3. To get domestic finish from the ordinary shirt machine, have the bosom surface softly padded and run very slowly.

A simple rule for ascertaining power of belting is as follows: Multiply diameter of pulley by its number of revolutions per minute, and this product by the width of the belt; divide this product by 3,300 for single belting or 2,100 for double belting, and the quotient will be the amount of horse-power that can be safely transmitted.

In another page allusion has been made to the prevalent habit of making a claim upon the laundryman for damages every time a garment is worn out. A suggestion was also made for indicating by marks upon the goods the total number of washings the pieces had passed through. In addition to the plan proposed we suggest a printed blank to be used in case of goods coming to the laundry in bad condition. These blanks are filled out at the time the goods are received and are returned with the goods. Below we show one of these printed blanks filled out as it comes from the laundry.

Mr. *John Smith.* Mark *S 1765.*

Rec'd *Jany. 1st,* 1891.

DEAR SIR:—The following pieces in your washing, received upon above date, were in bad condition, as follows:

1	Shirts	*Torn down the back.*
3	Collars	*Frayed on the edges.*
1	Cuffs	*Button Hole torn out.*
1	Miscellaneous	*Night Shirt, sleeve torn.*

Very Respectfully,

ENTERPRISE LAUNDRY,

No. 1645 Lyme Street.

ESSAYS.

Essays Read at the Convention held at Buffalo, October, 1889.

SOAP.

ANONYMOUS.

In every city, village and hamlet; on the hilltops, in the valleys and on the plains; on bulletin boards, fences and barns; in the daily, weekly or monthly journals, pictorials, magazines or novels; in glowing type on our store windows, everywhere in our fair land, from ocean to ocean, we find printed, painted and engraved this word, soap, soap, soap.

Who is there among men that should have an unusual interest in this article of soap more than that of the laundryman? I venture to ask, how many laundrymen know the quality of the soap they use? When a new soap is presented to a laundryman, how many are there who ask and study the quality of the soap before they ask the price? But, no, and sorry I am to make the assertion, many would push poor Mr. Quality into a dark room and lock the door, while they would scrutinize the price with eagle eye, and if not quite satisfactory, poor Mr. Quality would never have a hearing. You might as well expect to turn the course of Niagara, or see Editor Dowst wearing fancy flannel shirts, as to expect the best of results from the use of the poorest materials.

What do we mean by the best and poorest materials embodied in soap? We mean the best and poorest for the purposes intended. You will readily understand that a

perfect washing soap for ordinary laundry purposes is not fit for the toilet; neither can you expect to get a soiled shirt clean with fine toilet soap.

I want to call attention to the fact that many soaps are recommended as a first-class laundry soap, warranted to wash all goods perfectly, and especially adapted to your woolen goods, but remember first, that a positively good soap for woolen wear is not the proper article to use for soiled linen; and a good soap, or a soap that will render your linen nice and clean, is decidedly not the soap for woolen goods. This is an important point in the use of soap in the laundry.

Three kinds of soap should be used in a first-class steam laundry; namely, a strong soap, or a soap with an extra strength of alkali; a soap of ordinary strength, and a mild soap. The strong soap is to be used on the white linen and cotton goods; the medium on colored; the mild on flannel and all woolen goods; but first as stated, each of these soaps should be of the best quality and made of the best materials.

There are only two alkalies that are necessary to produce good laundry soap: No. 1 caustic soda and the higher grades of caustic potash. Others are more or less useless in the production of good soap. No. 1 beef's kidney tallow is generally considered as good as any other substance for the stock in making soap, but other pure fats or oils can be used with success. Any discolored substance used in the making of soap will carry its discoloration to the goods washed with said soaps; therefore you will find white soaps of the most practical value to the laundry.

I once knew a laundryman who bought a good chip soap, and in his dextrous endeavors to make an extraordinary fine quality of soft soap from the same he added great quantities of sal soda, and secured an abominable and unfit article for washing. If it was necessary that a quantity of sal soda should be introduced in the chip soap

to better its washing qualities, it should be introduced at the time of the saponification. No soda of the sal soda quality is necessary in the making of good soap, neither is it necessary to aid in washing.

All soap should be well saponified in order to make it perfect, and the degree of strength should always be determined at the time of saponification, as you cannot successfully add to or weaken the soap after the parts contained in the soap are through all chemical action.

Notwithstanding this, you can find good soap of all kinds and shades, in all quarters of the globe. Pears' (it appears good soap) comes from England, and we Gamble on our own Ivory white soap of many different makes. But as laundrymen we are especially benefited by a class of manufacturers who chip in to make soap expressly for the laundry trade. Why should we be as a child and believe so many fairy tales told us about soap, and dream that Santa Claus soap is the only soap in the world for us, simply because we are impressed with the idea of its coming from the Fairbanks of our country?

'Tis a very simple matter to find good soap; but good soap for the laundry is what we want, and that alone, and if you find any suggestions contained in this essay that will help you in your search the writer will feel very glad indeed.

The article of soap has been surrounded by and is yet a medium for an endless amount of fraud, and today we find great quantities of adulterated and impure soaps, filled with all sorts of spurious aud unnecessary stock.

WASHING AND BLEACHING.

J. D. KELSO, OF ROCHESTER, N. Y.

Two years ago I was a member of the executive committee of this association. We met in Chicago at the office of our friend and brother, Mr. Dowst, discussing

matters pertaining to the L. N. A. and preparing a programme for the meeting in Washington. Certain individuals were chosen to write articles touching upon the practical parts of the laundry business—for the education of the young, the middle aged and the advanced. On suggesting the names of some they were simply rejected on account of their inability; and this year the committee either used very poor judgment, or were badly fooled when they asked me to write, for I never was a writer. However, I will use my best endeavor to make matters "right."

It has been said "There is nothing new under the sun", but we find today there are many men who during the past year have found the laundry business new to them, and many of them wish it was neither new nor old. The washing and bleaching of shirts is neither new nor old to many laundrymen of old standing, for we find many of these same individuals who cannot tell you now through what process their goods are put. They can tell you what soap they use and what bleach is the best made, but they know no more.

The cleaning of shirts will bear close attention, for that is where our bread is buttered; in fact, it is the solid bread with many of us, and the butter is what we can squeeze out of socks, handkerchiefs, etc. Some of our number do a very large mangle trade, but ask any one of them today how trade has been the past summer, and he will in ninety-nine cases out of a hundred tell you, the much loved, much despised flannel shirt has allowed the bottom to drop out of his summer fortune.

Shirts should have just as close attention as collars and cuffs; in fact, more so in washing, for the best are very tender when wet. However, the opportunity for securing complete and almost perfect appliances for washing is good. We have a very large variety to choose from, good and bad. Some from manufacturers who have

tested and tried, and others from those who know as much about a machine as the machine knows about them.

Whatever machine you have, whether they shake, rub or squeeze the dirt out, be sure they are in perfect condition at all times. Do not put in a cheap machine and boil it constantly from four to six years without a cent's repairs on it, and wonder why you have to use so much bleach and soap to get your shirts clean; but about once in two years renew the inside cylinder of your wooden washers, so that the goods will be carried up and dropped in a proper manner, and not rolled up in a bunch so that some will come out without sleeves, some with patent open backs and others with open fronts. What you spend in repairs will very soon be returned to you in saving of soap and bleach, to say nothing of the continued annoyance of "go backs" or grimy shirts.

If you have a small laundry, remember your machines need just as much care as in large ones; and when you neglect your machines your work must suffer, and then your trade must of necessity suffer; and not your trade alone but that of your neighbors, for laundries of the present date must take the best of care of the work entrusted to them. What do we often hear of other laundries? "Why," Mr. A. says, "the beehive lauudry has ruined my clothes. They have bleached them all to pieces. They literally tear pieces out of my shirt sleeves." We hear such every week. Brethren, let us pull together, and use pure judgment.

If possible, sort your work; and do not wash the shirt that was worn but a day with the one that has not visited the wash-tub in a month, and in the meantime has come in contact with many articles that were loathsome.

Some of you may say: "I cannot afford to stop and assort up my loads;" but can we not? Certainly the average clean lot can be washed in one-third less time than the dirty, or in some cases, we might call it the filthy lot,

saving time as well as the goods. And will not the latter be appreciated by our customers? Give them as little chance as possible to say they are through with the Moonlight Laundry and are going to try the Sunlight. Admitted we cannot please everyone, we may try and uphold our brothers Skinner & Godfrey's motto, "We strive to please our customers," and they say, "there's millions in it." But it is difficult to get it out where your brother will first handle the customer's goods and knock the film out of them in about three weeks, and then bring tatters and rags for you to handle and receive blessings.

In bleaching we have a variety of fluids to choose from, while, simmered down, we have but a few that are of any practical use to us. They are all the finest made; but each laundry has its hobby in this line as well as others. Some think there is nothing like chloride of lime, and dozens of laundries are using it today with good results, and dozens can tell sad tales of how men will not take their shirts to a laundry for fear they will be minus the tails when returned. Great care should be taken where lime is used to keep the liquid free from sediment. The majority of laundries are using other preparations which can be made cheaply, and which can be used with less danger of damaging the goods, where it is left with the average man or woman.

In closing I would say, if you are a beginner, secure the right man to manage your business, and begin aright, and even then you will make mistakes enough to be a detriment to the laundry trade in general.

Had it been my privilege, I would like to have spent more time on the more practical points in washing and bleaching, for the laundry trade is no longer in its infancy, but is even in manhood or middle age; and to prevent its being grayheaded too soon we must be guarded, study our business thoroughly, each man striving to excel his neighbor, if possible.

WHICH IS BEST: TO COMPETE OR COMBINE?

L. E. HASTINGS, INDIANAPOLIS, IND.

I take it for granted that the members of the Laundrymen's Association are not in the laundry business for fun, nor out of charity for the great unwashed throng, but that they are in business for the cash there is in it—simply that and nothing more. I also take it for granted that having embarked in the laundry boat we are all studying in what way we may so conduct our business as to show the most solid cash when we balance our books at the end of the year. That to many men in the business the amount of cash which shows up is not satisfactory or as large as it should be for the capital and hard work involved, is a fact which is only too true.

This being the case, is it not worth while to see if we can find out why our hopes are not realized, and inquire if there is not some way in which such changes can be made that we may be more sure of fair returns for our efforts, and at the same time have our business on a more firm and sure foundation. The old saying that "Competition is the life of trade" may be true, but if we could add to it a little and say "Competition is the life of trade, but death to profits," I think the whole truth will be told. That reasonable competition in a legitimate manner is necessary in all kinds of business, cannot be denied, but competition so strong that two men are trying to make a living and something besides when there is only enough bnsiness for one, is drawing the line too fine, to say the least. That this is the condition of the laundry business to-day in many places is true, and that it is becoming more so year after year cannot be denied. To what it will come in the future only time will tell, but in my opinion, unless there is more combination and less competition, the demoralization now existing in many of our eastern cities, and fast appearing in some of the western cities, is but the beginning of a disastrous end.

There is, perhaps no business that, if it could be in a measure controlled, would be more profitable and safe; but today there is no business that from within and without has more adverse influences to contend with than ours. Chinese competition from without and American competition from within has in many places cut prices in two, and if the downward tendency continues in the future as it has in the past, a few years more will see our profits all wiped out. How then shall we who are already in the business put ourselves in position to meet the future with its low prices in such a way that our profits may be maintained and our interests secured? To my mind there are two things that we must do, the doing of which will in great measure solve the question. The first is, we must study to cheapen the process of doing our work by adopting new methods and new machines that are of real value; the second is to combine instead of competing, by merging in our own cities and towns our individual interests into one or more large concerns, thus saving very largely in expenses and turning into profit what is now largely thrown away

There are many kinds of business that can not be successfully combined. Fortunately ours is not one of them. There is no kind of business better adapted to being conducted on a large scale, when the large concern is made up of several smaller aggregated ones, holding the business of the individual concern, than ours. With the individual customer it is not so much the question who does his work as it is to have it done to suit him. That being the case, I claim that in the ordinary city the large laundry made up by the combination of any number of smaller laundries will hold nearly the whole trade of all, provided the large laundry is conducted with the same care and attention to details, and that the standard of work is kept high, as it should be. I contend that it is easier for the laundry doing, say $2,000 worth of work a week, to have

things perfectly systematized and to do the same amount of work in the aggregate. In the individual laundry one man in each will usually try to oversee everything, from the marking to the assorting room, besides looking after many other things constantly demanding his attention. In the combined laundry doing the same amount of work, each department, if necessary, can have an efficient head, who, making a study of his particular work, can produce better results and at less cost than when his attention is turned to everything. We all know that large enterprises can be controlled much more economically than many smaller ones doing the same amount of business.

Let us study that part a little and see. We will suppose the case of four laundries doing an average of $500 a week in comparison with one laundry doing $2,000 a week, and see the result. For this purpose I make some comparisons between the cost of running the large laundry and the four smaller ones which I think are approximately correct.

FOUR SMALL LAUNDRIES.		ONE LARGE LAUNDRY.	
4 Foremen	$72	1 Foreman	$25
4 Engineers	60	1 Engineer	18
4 Washers	48	4 Washers	36
12 Markers and Assorters	72	6 Markers and Assorters	36
4 Bookkeepers	48	1 Bookkeeper and Two Assisants	36
Rent	50	Rent	25
Fuel	50	Fuel	25
4 Managers	100	Manager	30
8 Drivers	80	5 Drivers	25
Keeping 8 Horses	25	Keeeping 5 Horses	16
Total	$605		$272

Of course the above is only an approximate estimate and in it we do not take into consideration the saving to be made in repair, wear and tear of machinery, interest on investment, saving in insurance, nor saving in cost of doing starching and ironing, the last of which will be very

large, as we all know that in that respect the work can be done for, at least, 20 per cent less than the individual laundry. From the above estimate we see that a saving of from $15,000 to $20,000 a year would be made—a good profit of itself. By such a combination, these supposed laundries could reduce their prices to their customers to the extent of a part of this saving, thus gaining in a greater degree the good will of their patrons, making their own business so much more secure, and making it so much harder for their competitors. The financial side of the question having been considered, we may now ask whether such a combination is practical or not. Ten years ago we would have said no. Today we say yes. Trusts have now passed through the experimental stage, and are now controlling many lines of business, and that successfully. True, in some lines they have been so managed that an additional burden has been placed upon the people, and they have become large monopolies. But in our business that could never be. The parties who have formed other combinations and trusts, have learned that it is better to combine than to compete. They have learned to recognize one another as honorable business men, and having done that they come together with a firm desire to make such a basis of agreement as will be just and equitable, been willing to cast aside the little petty jealousies they might have, and sinking petty differences, have been able to put their business affairs in such shape that today they are a thousand times stronger than under the old method. Our business is not of that nature that it can be put into one great combination, or that the business of one large section can be entirely united; but I claim that in any city or town having three laundries such combinations can be made, and the making of them will be one of the safeguards of our business.

Having discussed the question so far, it might be proper to give my idea of what is a fair basis of arrangement for

such a combination. Of course there are many ways of getting at it, all of which may be just and equitable. In making such an arrangement, both the amount of business, with the value of the plant of each party to the combination, should be taken into account. So I would suggest the following: Let a committee be appointed by the parties participating as agreed upon, from disinterested laundrymen, to appraise the value of each plant. To the value of each plant appraised, add the amount of work done by each concern, say for the previous six months. In case the different laundries do, to some extent, different classes of work, some of which is not as profitable as others, let the relative value of each be agreed upon to start with. The value of the entire work for the previous six months, with the value of the plant, will form the basis of value of the combination, and each man's interest in the combination will be such a proportion as the value of his business and plant bears to the whole.

Under this arrangement the large business has what it is entitled to, its larger proportion, and the smaller business has all it is entitled to, its smaller proportion. As each man has been doing in his individual capacity, so will his interest in the combination continue to do for him in the future.

Under the trust plan, the title to and good will of each plant are put into the hands of trustees who have the entire control and management of the combined business. These trustees are put under heavy bonds to the certificate holders for the faithful management of the trust. It is usual to elect these trustees from the persons most interested, and who have been the most successful in business. Doing this, the combined business will be sure to have the best direction, and under the provisions of the trust the small interest is made secure. In the foregoing I believe I have pointed out a practical method of meeting the future. To put it into operation needs the co-

operation of the parties interested. In most cities I believe enough will be found to take my view of the matter to secure a beginning. But, like all other enterprises, some one must take the lead and work it up. The success of such a combination, of course, depends upon the parties interested. Nothing can be done by standing back and saying that it is not practical, and cannot be made a success. Nor by us all insisting on having our say in the matter without being willing to give our neighbors consideration. But when the laundrymen of any city are willing to get together and take a broad view of the matter, all conflicting interests can be harmonized, and I believe all will decide it is better to combine than to compete.

BOILERS.

A. F. DOREMUS, CHICAGO.

The subject of the steam boiler and its furnace, until late years, has received but little consideration. Mechanics have turned their attention to the utilization of steam by means of improved engines, pumping apparatus, etc., giving but little attention to the boilers; and the business has been in the hands of parties, as a rule, not gifted with a high order of intelligence, or inclined to make investigations; simply content to do work to satisfy the ideas of parties who had given orders, but with little thought as to the purpose to which the construction was to be applied. As a result, steam users have been compelled to pay large bills for fuel and repairs.

The first consideration in the construction of a boiler is the material that enters into it, the cost of labor being no more—in fact a little less—to construct the boiler of good material than where poor is employed. This point being decided upon, another rule to be observed is that heating surface should never be employed at the expense of circulation. A boiler should be so constructed as to be

readily accessible at all points, to keep the same clean and in order, thereby rendering the heating surface always economically effective; and in the setting of the boiler the walls inclosing the same should be so arranged as to distribute heat as near uniformly as possible to the entire water surface. The steam surface should be jacketed either with brick work with an air space intervening between the same and boiler, or by means of a good coat of non-conducting material applied to the shell. Hollow air spaces in brick work of boiler are desirable, as they reduce radiation to the minimum.

Great care should be taken to proportion the grate to the work to be done, not to the size of the boiler. The relation the grate bears to the boiler is often misconstrued or misunderstood. The grate is reasonably the measure of the amount of fuel that can be consumed within a given time under the boiler. The boiler has nothing whatever to do with regulating the consumption of fuel, but is simply placed there as an absorbent of the heat generated from the combustion of fuel on the grate bars. The greater the proportion of heat absorbing surface is to the amount of heat generated (or, in other words, fuel consumed,) within reasonable bounds, the greater will be the economic efficiency.

A great mistake is made in getting many boilers too small for the work to be done; and in order to crowd the same a large area of grate is put in. But large boilers, as a rule, having area of grate proportioned to the size of the boiler regardless of work to be done, have not given satisfaction from these very causes.

Too much importance cannot be attached to proper chimney opening and flue. The same should be, where possible, 20 per cent greater in area than the combined area of the tubes or flues in boiler, and under no circumstances should area of chimney flue be less than the combined area of the tubes or flues of boiler. A good strong

draught is the lungs of a furnace, and the most important element to be considered as pertaining to the successful steam generation.

If sudden draughts are made from the boiler, or, in other words, if the load is variable, a steam drum attached to the boiler is a desirable feature. If the load is constant the use of the steam drum is not of vital importance.

Great care should be taken in the selection of fuel. The indiscriminate use of various kinds of fuel is discouraging to a fireman, as each fuel in itself has peculiarities which require intelligent manipulation to secure the best work from it. Where fuel is constantly being mixed or changed the operator is not able to intelligently use the same to the best advantage.

The first cost of a steam boiler and setting should be of minor importance, as a well constructed and well proportioned plant will soon pay for itself in the saving, not alone in fuel, but in cost of repairs, and the annoying delay of business as well.

In figuring on the capacity of a boiler, if it is well proportioned and well set, an evaporation of four pounds of water to the square foot of heating surface in the boiler is a safe basis to estimate from. On this basis, and learning from the engine builder the amount of water required to be evaporated per hour, to give an effective horse power to his engine, a buyer will be able to determine the size of boiler required to do the work.

The drawings I have here are for the purpose of explaining the setting of a boiler according to the principles set forth in my essay. While the first cost is greater than the usual way of setting boilers, I think I can prove that the saving in fuel alone in two years will pay for the boiler and its setting. I can also explain how easy it is to super-heat steam in a boiler without any extra cost of fuel, by holding the gases to super-heat the steam. This plan of setting heats these same gases sufficiently to cause

them to combust and thereby assist in making steam with the smoke and gases that commonly pass out of the chimney without combustion; and these gases alone, in ordinarily set boilers, amount to about 40 per cent of the bill for fuel.

Essays Read at the Convention held in Pittsburg, Pa., October, 1890.

CASH VS. CREDIT.

BY GEO. W. WITTERS, EAST SAGINAW, MICH.

It has long been a doubtful question with a large number of launderers whether a cash business could be successfully managed, providing all the laundries in the immediate locality did not do the same, or did.

It shall be my endeavor today to touch on both sides of the question, and give my brother launderers my experience in the matter.

In the first place, have you ever figured up how much it costs you to collect laundry bills?

Secondly. Have you estimated how much custom you lose yearly by doing a credit business?

Thirdly. Have you ever realized how demoralizing it is to yourself when you need money and it is almost impossible to collect anything wherewith to meet your obligations, to look over your accounts and work yourself into a passion?

Fourthly. Have you ever taken into consideration how much extra clerical work it takes to do a credit business?

The writer of this article has been in the laundry business since 1875, and has had a wide experience in traveling over this entire continent; has conducted both a credit and a cash business, and knows whereof he speaks.

It costs 20 per cent to collect laundry bills, not taking into consideration the loss entailed by being away from your business.

You lose quite a custom by doing a credit business, because you can all recall instances of good paying customers who have been trading with you for an indefinite time, who, in an evil moment have asked for and obtained credit, and not infrequently have from that day given you the go-by and taken their work to your competitor, paying him the cash therefor. Another phase is this: That besides losing his trade you also lose his influence, be it little or much, and ever thereafter, should occasion arise, he does not hesitate to pronounce you anything but a gentleman.

In estimating the extra clerical work, I presume you keep a record of every bundle sent you. If you do not, you ought to.

Well, under the credit system you are obliged to transfer the items from the driver's book to your ledger; from your ledger back to a statement or bill head, thereby causing an endless amount of confusion and errors, no matter how careful you or your clerks may be. Under the cash system all this is changed. You save 20 per cent cost of collecting; you save the trade you would otherwise lose by accommodating people in that way. You gain your customer's influence by retaining him as a customer; you save the extra clerk in your office, and better than all the above, you will always have a dollar or two in the bank.

Now, the question arises, can it be done? Are you not liable to hurt some one's feelings by demanding what is your own?

To the first proposition I answer decidedly, yes; to the second, no. Why? Because an intelligent and good customer will not take offense for being obliged to pay as he goes, and it is the slow customer you are after.

Of course, there will be some dissatisfied, and will in all probability leave you, but you can well afford to lose them if they are not willing to conform to your business rules.

A short history of our experience in changing from the credit to the cash business would not come amiss here.

We turn out from twelve to sixteen hundred bundles per week, in a city of 50,000 inhabitants, where competition is very close, where the credit fiend reigned supreme, and we do not exaggerate when we say that we were oftentimes obliged to "hustle" to get money to pay off with; but finally arrangements were made with all the laundries but one, to do a strictly cash business. As soon as our arrangements were completed, we advertised in the local papers over our several signatures that after a certain date the undersigned would conduct their business on a strictly cash basis, indiscriminately and without fear or favor, as follows:

A NEW DEAL—THE LAUNDRYMEN DECIDE TO DO A CASH BUSINESS AFTER OCTOBER 1.

We, the undersigned laundrymen of east and west sides, have hereby agreed to carry on a strictly cash business on and after October 1. Our reasons for so doing are as follows:

First. Our accounts being necessarily small, an endless amount of confusion and expense is entailed to an injurious degree, and the loss in collections, and the time and attention it requires, we can give to our workrooms and insure a higher standard of work.

Second. Our current expenses are cash and must be paid when due. The stand we have taken is one we have been forced into, and we hope all will lend us their aid.

(Signed.) ———

The time came, and every one of us had our doubts and our fears as to the result, but by counselling one with

another we successfully launched the ship of cash, and we lost three customers.

The fight was won the first week.

For awhile it caused more work for the drivers, as we were obliged to deliver a number of parcels a second time.

For our drivers we furnished two styles of cards as follows:

Mr.———

Our driver has called today to deliver your laundry and there was no one prepared to receive it.

Please leave the amount——at the house, and oblige.

On the second delivery if the parcel was not paid for, the driver left this card:

Mr.———

Our driver has called a second time to deliver your laundry and there has been no one prepared to receive it.

Please call at our office for same.

————Laundry.

On the reverse side we printed something in the advertising line, also giving the address of the laundry.

We now have the cash business firmly established; are making money, and the laundryman who did not enter into the agreement has nothing but a lot of second-hand machinery and a ledger full of bad accounts.

Brother launderers, stop and ponder over this thing and try to see yourselves as others see you.

When you wanted to buy a new machine under the credit system, you invariably bought on time at higher prices, while your neighbor who was doing a cash business, went into the market and bought at prices that would surprise you.

This has been the experience of every traveler on the road, that those who did a cash business always took advantage of the discount, while those who carry their profits on their books always ask for credit or do not buy.

You see that credit is a weapon that cuts you both ways, or in other words, "you are burning your candles at both ends at the same time."

While we do not admire the Chinaman or his method of doing business, we can with profit to ourselves imitate him in this respect: "No money, no washee."

Do not be afraid of offending some one; be polite; see that your drivers are the same; be firm in your resolution, and you will bless the day you determined to do a cash business.

You are in the laundry business for what money there is in it, not for glory or for fun, and the writer thinks that if the cash business was universal throughout the land among launderers, there would not be one-half the contention and throat-cutting that now exists, and the business would be elevated to a higher plane throughout.

CLEANLINESS AND ORDER.

BY FRANK JOHNSON, PROVIDENCE, R. I.

No doubt there will be many able essays read before the L. N. A. on questions that relate to the absolute necessities and best methods of doing the work of the laundry, from collecting to delivering. There will be the solids of the "feast of reason", but if you have room on your well-spread board for a little side-dish which shall treat of cleanliness and order in the laundry, give this a place.

Now, we all know there are laundries and laundries, like Tennyson's eagle and somebody else's eagle. Tennyson says of his:

> "He clasps the crag with hooked hands,
> Close to the sun in lonely lands,
> Ringed with the azure world he stands.
> The wrinkled sea beneath him crawls;
> He watches from his mountain walls,
> And like a thunderbolt he falls."

Somebody else says of his:

"He clasps with hooked claws the fence,
Close to the hen roost, looking whence
He spies a mouse that has no sense.
The hapless mouse can't well see him,
Because the sun his eye doth dim;
He jumpeth down and grabbeth him."

They were both eagles, but there was a difference in the style.

Come with me now on a short visit to two different laundries, which I liken to these two eagles. As we approach the first, we know it is a laundry because a large, respectable sign tells us so. As we draw near, the sun's rays are reflected from a brass sign by the door. Enter the office. It is neat and orderly, yet has a look of prosperity. The neat bookkeeper tells us with a smile that the proprietor is close at hand. He soon greets us genially, and our request to look over the laundry meets with prompt and smiling acquiesence. As he leads the way we say to ourselves, ' Here is a laundryman who is proud of his business, one not afraid nor ashamed to allow his customers and the public in general to know how his work rooms look." Nor need he be. Each operative at the various machines is attending to his business in a go-ahead, quiet and efficient manner, and they evidently do not consider it a part of their duty to gaze at the visitors as long as they remain in the room. Notice the cleanliness in the marking room. You do not see a litter of old paper, string, etc. There is a proper receptacle for all that. In the ironing room how clean the floor and tables are; the machines are not covered with lint nor dripping with oil until they and the floor beneath them are unsightly objects.

Each girl is required to keep the machine she operates, the floor space about it and the table, perfectly clean. As the proprietor explains this, he adds, "It is wonderful what pride the girls show in this matter when once

established. They can dress better at their work, as all can who work in a clean place."

For spare floor space, which is no girl's particular province, and stairs, office, etc., a woman comes to scrub. The expense is slight, the comfort great. Yes, and we say the reputation of the laundry is great. As a lady remarked after paying a visit to such a laundry: "Why, I had no idea that a laundry could be such a perfectly clean, wholesome place. In my mind, it was always associated with slop, steam, heat and frowsy-looking girls. I will send my clothes to that laundry hereafter."

Well, as we proceed with our inspection of this plant, we are more and more pleased. We could go on for pages telling of the perfect order and cleanliness of each department. The system appears to be complete. The proprietor is surely one of the eagles that hold a lofty place, aspires to the best, a bright and shining example to his brother laundrymen; he does a fine class of work.

Does he know more of the practical working of all branches than does his brother laundryman whose place we will next visit? We think not. The other is a man of ability wishing to improve, but he has fallen into the great rut of error, lack of order, lack of a system by which to govern his help; and so he works hard, finds it all up hill, and at times is discouraged enough to say no business is so hard to manage and get a living out of as this; and as he finds it difficult to collect enough to pay his help, and as he ruefully thinks of his week's work and its telling effect on brain and muscle, he feels like sending an "ad" to the laundry journals describing a plant for sale, "doing good business," etc. Now, why should his brother have all the best of the trade? Take a look at his laundry for answer. Begin on the outside. Are the signs attractive? We have to look sharply to locate the entrance, but we get in with some difficulty,

for the driver has dumped a load in the passage. We find the office in one corner of the marking room.

Look at the floor; but truth to tell its dirt does not show in many places, because it is mostly covered with old papers of all kinds torn off bundles and thrown down. Over these the markers walk as they giggle and chat over their work, often appealing to each other to know "what lot does this belong to?" "How did this piece get here," or "what do you call that mark?" Their attention is not equally divided between their task and the visitors, for the visitors get the major part of it. The proprietor appears, and with evident reluctance shows us the various departments, with frequent apologies, which are not uncalled for. We will only look into the wash-room—we did not bring our rubber boots; business does not seem to be rushing here. We wonder why the other washers are not running, until we recall the progress which was not being made in the marking room. This, no doubt, accounts for it. In the ironing room we see more help than we saw at the other place, yet, to all appearances there is not much more than half the work. It is mismanagement. What are all these girls doing? Three doing what one was doing at laundry number one, and making little progress at that. It is evident that most of the girls employed here are of that too numerous class who work with one eye on the boss (as they call him) and one on the work, ready to take advantage of the turning of his back to fold a scorched or badly ironed piece best side out. The machines are dirty, the floor is dirty, the girls are untidy, and in fact, if the lady spoken of had visited this laundry instead of the other, she would have said: "Well, a laundry is just what I thought it was. I would never send my clothes to such a dirty place to be handled by such evidently careless operatives."

Now, we come to the distributing room. Here is at least twice the amount of help needed to do the work.

All is clatter, and confusion seems to reign supreme. Bundles are lying around, evidently waiting for lost pieces. One girl says, "What is this bundle short?" Collars, cuffs, handkerchiefs, which we reflect may be now lying among the waste paper on the floor of the marking room. In this and like carelessness may be seen one of the leaks whereby many of the hard-earned dollars of this harassed looking proprietor make their escape.

Now, we have seen the two extremes. The eagle that chooses to be "ringed with the azure world," and the one that sits on the fence near the hen roost

Now, this eagle on the fence need not stay there. If his wings are clipped so he is not ready for a lofty flight, they will grow. Let him fly to the nearest tree, and at least get from the near vicinity of the hen roost. With every flight higher he will gain strength, and in how short a time may he sit by the side of his brother eagle on the crag, his time and talent devoted to obtaining nobler gains than mice.

Now, of all the intermediate conditions I do not speak. These are, as I said, two extremes. My own laundry represents not the eagle of the top crag by any means, and I hope it is not quite on the fence near the hen roost, and when I urge upon my brothers of the trade the great advantages of perfect order and neatness, I fear I must say as did an old Scotch minister, who was known not to live up to his own precepts: "Ye ken, brothers, ye must do as I say, not as I do."

It pays to keep clean; it makes the work go along faster in every department; it creates a more respectable class of help, and, to conclude, it elevates the laundry more than can be estimated, to keep it orderly and clean.

PROGRESSIVE IDEAS.

BY W. O. LEAGUE, LOUISVILLE, KY.

Ever since man has reached that state which we are pleased to term civilized, change more or less radical in the code of society's ethics have become necessary. In every branch of science and art, as we have become enlightened, rules that have been regarded as invincible have been punctured by the scalpel of progress, and instead of being invincible have been found to contain naught but the pus of bigotry. But a few years ago we had the pioneers in the electric world, some of whom had grown gray in scientific research, and realized that there was much more to be learned than had been developed, while there were others who were so "chock full" of bigotry that they imagined they knew it all, and that there was nothing more to be learned. Just the proper state of affairs to develop controversy, and by controversy bring forth new ideas. It was at this stage of the game between the electric scientists of a few years ago that a new actor appeared upon the stage of the electric world, or perhaps more correctly speaking, in theatrical parlance he would come under the classification of a supe instead of actor. He was a tramp telegraph operator, and owing to his propensity to experiment, to the neglect of the duties he was paid to perform, he scarcely ever retained a position more than a few weeks at a time. It was in Louisville, but a few years ago, during his hours off duty when he as usual was fooling around in the battery room, that he managed to smash several battery jars, for which he was ingloriously fired. He then tramped to Indianapolis and struck a job. As soon as he got the run of the office he began to fool around (experiment) in the battery room, and it was but a few days before there was a crash and a smash and all the instruments stopped clicking. The superintendent and employes made a rush

to the point from where the sound of the noise came, and lo! the tramp telegraph operator had been interfering and overturned a table of batteries, for which he was ignominiously bounced. And thus he continued to secure first one position and then another, but he always kept fooling around the battery-room during his off hours, rarely holding the same position longer than a few weeks. Today he is still around, but instead of fooling in country town telegraph offices he is in his own laboratory in Menlo Park. The bigoted old fools who thought they knew it all are glad of an opportunity to show him reverence; for he is as far above them in knowledge as midday is brighter than the darkest midnight hour. And yet Edison says he only stands upon the threshhold of the future possibilities of electricity. Some people are naturally bigoted, while there are others that success has made egotistical. I do not know that this is more so in the laundry business than any other, but I have met some men who think they know it all, and yet cannot tell why they work in a certain way to produce certain results. Some of these days the Edison of the laundry world will mount the pedestal of enlightenment, and then the bigots will hunt their holes.

I wanted to find just how much the average laundryman knew about his business, in order that I might be on my guard when I met any of the fraternity, and to know when I should venture to put in a word edgewise.

In order to educate myself upon this point I had to use a proxy. I have an acquaintance whose business brings him in contact with the laundry trade. I confided my desires, and asked him to help me out. So I made out the following list of questions, which he agreed to ask on one of his trips: Why do you use soap? Why do you wash through two suds, one hot and the other lukewarm? Why do you use bleach? Why do you use bluing? Why do you cook starch, and then dry the goods quickly, and

then dampen them and apply a hot iron to them? After he had completed his round of a day, say in St. Louis, he sat down and after each question he made a designation mark, using an O to indicate ignorance and an A to indicate knowledge. In about ninety days he came my way and turned in his list of questions, and out of over one hundred laundrymen whom he had interviewed none gave an intelligent reason for their processes. In fact, nearly the whole blank space on the slip opposite the questions was filled out with O's.

I have been in numerous towns and cities where the progressive business men made use of an expression like this: What we need is a few first-class funerals; then we will be able to come to the front and do business and conduct our municipal affairs according to modern methods." Now, from what I have seen, and the knowledge I have gleaned through those who have an opportunity to come in contact with the trade, a few first-class funerals would not be detrimental to the general welfare of the laundry trade. As for myself, I think if I can live forty or fifty years longer I may be able to master the minor details of the business scientifically. Every day I find something new to be solved. Some of them are head bumpers, or to be more explicit, they make you feel like bumping your head against the nearest telegraph pole. The following is our process: We wash, rinse and blue in the machine. In fact, we put the goods into the machine and when taken out they are ready for the extractor, and from there they go to the starchers. All material had been guaged by the washroom man to a nicety, and the things had been running uniform in color for months. All of a sudden work commenced to come out off color, but an investigation showed that the same materials and quantities were being used as in the past. Then the quantities were changed to meet the exigencies of the case, and a few lots would come through all right. Then they would begin

coming out with variegated shades of blue and yellow; first one predominating, then the other, with an occasional lot just right. Now when you stand and watch processes and materials used in a lot of work in the wash room, and know to a dead certainty that each lot was treated the same from beginning to end, and then obtain various results, it is calculated to give a man dyspepsia. After watching for a week and ordering many changes I concluded to try it myself, which I did with no better results than I had obtained by giving instructions. It began to assume the form of an insoluble problem. I thought I had covered all the ground, but just one little point had escaped me (and it is little things that cause nine-tenths of the worry in a laundry). Any man can see a mountain, but he is liable to stumble over a mole-hill. We use river water to wash with, and as a matter of course have to filter it. At the time the trouble began that I refer to, there had been a rise in the river and as a natural consequence it necessitated more alum in the precipitant chamber than usual, in order to get perfectly clear water, and therein was the whole trouble. I had been hunting for two weeks in the wash room for the cause, and in reality it was forty feet from there and not where I had been looking, but at the filtering point. As we term it the alum made the water hard, the increase of alum necessitated by the rise of the river increased the hardness of the water and made it necessary to increase the quantity of bluing and sour, and the sudden changes when the process was the same was caused by the variation of alum in the water, which variation I discovered to be caused by the man in charge of the filter letting the alum chamber run empty. A very simple thing to cause so much annoyance, but the very simplicity of the cause made it the more difficult to discover.

In the beginning of this article I referred to controversy as a developer of ideas. If any doubt this let them take

any topic they choose and get into a controversy with an opponent, and see how many new ideas, things that you never thought of before, will pop into your head to substantiate your side of the question. That is what I call developing new ideas. While talking with the editor of our trade journal upon this point several months ago he concluded that if I was correct in my theory of idea developments, a controversy upon some part of the laundry business would be a good thing for the trade. First one thing, then another was tried without getting the desired result, and I began to think that I had undertaken a hopeless task. Finally the idea developed itself that the best way to do would be to take up some topic and leave out a portion of the fundamental part of it and perhaps that would bring out the trade. So I wandered through the field of possibilities and hit upon soap for washing woolens. And in reality I have not been talking or writing about the proper soap for washing woolens at all. And in doing this I have not been imbued with any other motive than that to benefit the trade. If some of those persons who were, as they thought, getting onto me with both feet, had known half as much as they thought they did, they would have corrected me, and if the proper correction had been made I should then and there have "let the cat out of the bag." But they did not. The course, or rather the soap, I advocated was so far superior to anything that was being used for woolens that I knew that while in one sense it was misleading, yet it was in such a way that it would not be inimical to their welfare. In fact I knew that it must be to their interest and would ultimately be of very great benefit to them because it would cause them to think and experiment; and for a man to think and experiment in the laundry business means progress, and progress tends to put him in advance of his competitors in business. Some may say that progress in a scientific way in nowise benefits them so far as

their customers are concerned. That is a very grave mistake, as your patrons are sure to find out from results whether you understand your business or not.

In calling the attention of the trade to their wants upon the soap question, I am fully aware that I incurred the enmity of a certain class which can truly be termed bigots. If they were not they would have investigated for themselves; upon information on the soap question conviction would have followed that caustic soda soap should never be used in a laundry. Now that the season of the year is near at hand when the bulk of the underwear that comes to the laundries is woolen, it is meet and proper that the point that has been concealed in the soap controversy should become known. I here give you a formula for making the only soap that should be used in washing woolens: Take fifty pounds of tallow and put it in an iron tank that will hold sixty gallons, and with the aid of a steam jet melt the tallow. Take fifteen pounds of caustic potash and dissolve in two gallons of soft water, and after the tallow is melted add the potash solution to it and boil them together with the aid of the steam jet, just as you cook starch. After the compound has boiled a few minutes, add three pounds of carbonate of potash and boil slowly for about an hour, and then add enough water to fill the sixty gallon tank, and you have sixty gallons of the proper soap for washing woolens. It is the carbonate of potash element that adds so largely to the soft finish of the wools, but it requires the caustic potash to first saponify the fatty acids. After the saponification takes place the carbonate—which is the life of the wool—can be added because the saponified substance and carbonate of potash are compatible. I have had soap samples by the score sent to me this year, and of the whole lot only two or three would pass muster as a good potash soap. The ordinary potash soap is far superior to any other for woolens that has been used heretofore, but

if you will get a soap made according to the above formula, especially for woolens, it will be as far superior to the ordinary potash soap as that is superior to caustic soda soap; and anyone who has tried the experiment of comparing the texture of goods that have been washed with soda and potash soap knows that a blind person can discover the difference. Now, I haven't any axe to grind in this affair, so that it is absolutely immaterial to me whether any of the trade profits by it or not. Neither am I like a laundryman that I know of in a neighboring state who in a financial way stands in the front rank. He has a good formula for making a marking ink at a very slight cost. A former employe who is now able to buy and sell him, asked him about it, and in consideration of his having been a former employe, he, out of the fullness of his heart let him have the formula for making ink for a consideration of $5. That is what I call a laundryman that is loaded down to the guards with a desire to assist his fellow craftsmen. If they had been competitors there would have been the shadow of an excuse, but the very fact that the former employe was in business in another city more than 300 miles distant makes the transaction appear to me in the light of pure unadulterated pusillanimity, and I am thankful that there are but few men of that disposition engaged iu the business.

While treating the soap question I want to call your attention to one pernicious habit that some laundrymen have; that is, the adding of caustic soda or caustic potash to the liquid soap with the impression that they are adding to the strength of the soap. The only way that you can add to the strength of your soap is to put just enough water in the soda or potash to dissolve it and put your soap into the tank, and without adding any water put the solution in the soap and dissolve the solution and the soap together with the steam jet or in a jacketed kettle. After you have a tank of liquid soap, adding caustic

potash or soda to it in nowise strengthens the soap. You have two distinct and separate bodies in the same vessel.

It really is amusing to me to see how some men figure in their business from an economical standpoint. I know a laundryman who to economize uses well water instead of water from the city waterworks as a matter of saving, which on the face of it has every appearance of being true economy. He and I had a little controversy upon that point. I took his own statement of the cost of washing seventy shirts with the hard water, and then the cost of washing the same amount with the hydrant water, and the excess of soap required to do the work with the hard over the hydrant water would pay for thirty thousand gallons of water per day. And yet he went to the expense of sinking an extra well, thinking it was economy. The best way to do is to investigate all such points carefully; first satisfy yourself that you are right, then go ahead. If it is on some point beyond your capacity, go to some one who is competent and pay them to do it for you and it will be money well spent.

The only sure pathway to success, provided you are endowed with average business capacity, is to become master of your business. Be able to overcome every obstacle, even the smallest detail, and then you control the situation. Be thorough in every department. We exact of others in many instances that which we can not do ourselves. For instance, you buy a piece of machinery, and it does not give satisfactory results; you expect the maker to remedy the defect, and if he can not you do not want any more to do with him or his machinery. A customer brings a bundle of his linen to you, and after you have laundered it and it does not suit him—that is, your work is not what it ought to be—the customer gives you an opportunity to remedy the defect, and you can not do it because you are not a laundryman. What is the result? Your patron goes to another laundry; you

receive the same treatment at his hands that you would give the machinery man who endeavored to sell you a machine that would not turn out good work.

I am going to touch a little bit more on potash soap. I have referred to the proper kind of soap for woolens. If the soap men had truly desired to produce the right soap they would have brought this out long ago; that is, the making of a potash soap and then adding the carbonate of potash to it, which is the life of the wool, and which you destroy with your caustic soda soaps. It is not generally known that the output of pearl ashes—carbonate of potash made from the suet (fat) of sheep is more than three millions of pounds annually. In the year 1869 the output of pearl ashes was from wood ashes 50,000,000 pounds; beet root 30,000,000 pounds; sulphate of potash 37,500,000 pounds, and from sheep's suet (fat) 2,500,000 pounds. When you take into consideration the fact that three-fourths of the yolk, that is the secretion that imparts to wool its softness, is carbonate of potash, it is readily traceable to the large per cent of the same substance entering so much into the composition of the sheeps' fat. And as it is this element that imparts to wool that fluffy softness which is so pleasant to the sense of feeling, does it not stand to reason that in the laundering of woolen garments that this is the very element that you wish to protect instead of destroying it with caustic soda? Therefore a soap should be made from sheeps' tallow, with just enough caustic potash added to saponify it, and as soon as the saponification is perfect add the pearl ashes (carbonate of potash), which element will be absorbed by the wool, and instead of your woolen goods leaving your laundry harsh and hard and shrunken, they will be soft and fluffy. Do not let the soap makers palm off anything they see fit to on you and call it potash soap, but demand a potash soap made from sheeps' tallow, and see that you get it. Then note carefully the results. I

know this subject is monotonous to some, but I also know there are hundreds that it interests and that they have obtained the results that I claim. I have letters from all parts of the United States and Europe testifying to it by people who have tried potash soap. And now in conclusion let me say that in using potash soap for linens and cottons, in whatever process you have heretofore used caustic soda, whether for bleaches or softening water, use in its stead caustic potash. And for the purpose of softening water the materials rank thus: First, carbonate of potash (pearl ashes) is the best; second, caustic potash, and third, caustic soda.

Many questions have been asked how to use potash soap. Use it just the same as you would any other soap, only banish caustic soda from your laundry, and in its place use caustic potash and pearl ashes.

A SOFT SOAP FOR THE LAUNDRY.

ANONYMOUS.

The soap question has been before the laundrymen, and dissected many different times. Its contents, its nature, its general consistency and effects, have all been gone over carefully and many conclusions derived therefrom; but like the frog in the spring time, it bobs up serenely and demands its share of attention.

To be brief in introduction, I wish to announce that I believe there is a growing habit among some laundrymen to buy many different articles put on the market, known as soap stock. This they use for the purpose of making soft soap expressly for use in the rotary washers.

This remarkable feat is accomplished by dissolving said stock and adding large quantities of water and sodas. The par excellence of this now completed solution, and its affinity for unexcelled cleansing powers, is laid claim to from the lofty heights of laundry perfection and ad-

vanced chemical theory, that it contains an excessive strength of alkali. A careful investigation, I think, would satisfy the most arbitrary and indifferent individual that the claim of excessive strength of alkali was true to a remarkable degree.

But how erroneous to call a solution of this kind a superior soft soap! Erroneous! I say it comes as far from being what it is professionally quoted to be, as the mortal body of McGinty did from reaching the bottom of the mighty deep.

The use and abuse of soap is far from being new or or original, so far as the present generation is concerned. The methods of making and using soap keep pace with all other articles of use, both in its improved and deteriorating qualities.

Careful reflection often points to our notice that the changes in our productions and new methods of using are not always an improvement over their predecessors. A soap in the true sense of the word, no matter whether it be hard or soft, is an article produced by the saponification of fatty matters, grease or oils, with chemical products known as alkalies.

The nature of these two substances before amalgamation is directly opposite in every particular except one.

The greasy matters are of a soothing, preserving nature, while the alkali is burning and destructive, but both contain some cleansing powers, and the combination of the two changes the obstinate natures of both and leaves it a distinctly cleansing compound. This compound is brought about and perfected by a chemical action of the alkali upon the stock used, which takes time.

It does not necessarily follow that a soap for ordinary washing in the washing machines should not contain an excess of alkali, as that is justly preferable, but the degree of strength should be kept within the bounds of

reason, and whatever might be the desired strength, it should be determined at the time of saponification, and all the alkali necessary to accomplish the desired results in the washing process should then be introduced. After the soap thus made has passed its chemical action, it should never be disturbed by the introduction of any of the original stock used in its making.

To dissolve it in the water, and then introduce more alkali in the solution, means that you have dissolved the soap in water charged with alkali, and when a portion of this is placed in the washing machine they play their parts independent of each other; that is, the part which was the original soap is washing without injury to the goods, while the alkali lastly introduced, not being combined with the soap through saponification, is with its original nature burning and destroying the goods in proportion to its strength.

Perhaps I am in error in my surmise; but alas, alas! can it be so in the days of progress and talking dolls that these charges be true? In the years gone by, when the proposition of transporting humanity by electricity at great speed over the earth's surface would have been considered sacrilegious, and a slur upon the Deity with whom alone all things are possible; in those days when the county politician could prove every assertion he made, if old Bill Jones were only alive; those days when the broad-shouldered short-horned bull conveyed the express train (on two wheels) seemingly, half way across the continent, from Philadelphia to Pittsburg; at that time you could have seen an old woman with wrinkled face and bended form, back of an old thatched cottage, on the side of the Alleghanies, smoking her small pipe of peace, or her small piece of pipe, mixing together her six months' savings of house grease with her leached wood ashes, making a potash soft soap; and who knows but what this same personage was, from a scientific point of

view, making a better article for laundry purposes than some who now, in these times of modern perfection, are showing their gilt-edge circulars to their fellow townsmen with the popular announcement of, "gents' fine work a specialty."

It may be well for laundrymen to have a general knowledge of the consistency of the soap they use. This is advisable, not only in regard to this particular kind of soap, but also for each and every kind of soap used in the laundry.

As this essay treats on the machine soap for ordinary washing, which comprises all white linen and cotton goods, I will not venture any further step towards other soaps, but leave the suggestion as it is, and confine myself to this soap alone. Right in this line I have another suggestion, and that is, beware of those soap venders who recommend to you one kind of soap for the washing of all kinds of goods.

In order to form a basis for a fairly correct knowledge of what proportions of alkali are necessary to produce a good soap of sufficient strength, we should first know to the fullest extent the powers of the alkali used. Now, for instance, 12½ pounds of alkali of 76 per cent strength are capable of saponifying 100 pounds of grease; this, of course, does not give you a strong soap, but on the contrary it produces about as near as we can get at it, a positive neutral soap. Oh, my! I tried to escape that word neutral, for I still remember the vast amount of ink shed and the crippled condition of the encyclopedias brought about by the strategic contest for supremacy as to the correctness of the word mentioned used in connection with soap. But spare our cause for a moment until I explain. I do not champion the correctness of the word used, but I will claim my right to so use the word on the ground that custom gives me permission to do so. Whether it be right or wrong, it simply means that the

entire body of alkali used has been neutralized. If you should add one more pound of grease, you could never bring the solution to soap until you added enough more alkali to unite the surplus of one pound of grease.

Now, here is a point for us to seriously consider, that if you take this 112½ pounds of stock thus made and add water enough to make four barrels of soft soap, you would probably use from 40 to 50 pounds more of alkali to strengthen it, every ounce of which would be an excess; and remember, in a process of this kind, the extra alkali does not combine chemically with the stock. If you should take half of the total amount of alkali thus manipulated and saponify the 100 pounds of grease with it you would get a much richer soap, that would cleanse much easier and better, and yet have an article that would be non-destructive. The kind of alkali necessary to produce a good soap of this kind I would rather leave to the discretion of the user and maker, as it is demonstrated every day that the higher grades of both vegetable and chemical alkalies are useful for this preparation. It can be thus explained: The vegetable alkali is neither as convenient nor profitable as the chemical, and furthermore, the consumption of soap has become so great that vegetable alkali could scarcely be produced sufficient enough to supply five per cent of the alkalies now used in the making of soap, but the best of authorities, when seriously pressed, will admit the vegetable alkali to be the least destructive and a better cleanser than the chemical.

Now, gentlemen, in conclusion, I beg you not to criticize this, my competing document, too harshly, but I would rather implore you that while now in the patriotic zeal of your campaign of prize awards and anti-pigtail prizes, especially to remember the writer from whom this came, and stand nobly by the "Little Soap Question."

WORK AND WIN.

BY H. G. MARSHALL, SPRINGFIELD, OHIO.

Mr. President and Gentlemen of the Laundrymen's National Convention:

When in last September I received a letter from our worthy president that he would like me to write one of my old-time essays, and to write one good enough for him to pin a prize on my coat, my ambition to get there floated proudly to the four winds of heaven; and how my thought sailed in the elysium heights of fame, like our great American eagle when he first chawed up his iron cage and pounced upon his affrighted tyrants and tore up their despotic habiliments into a thousand giblets. Just so our worthy president lifted me to the seventh heaven of fame by his overpowering force, and altogether against my own personal wishes. As you must know, I am quite happy to present myself before this august convention in October. Some people don't have a chance to get near a prize except in a prize fight, but I am going to do my level best to get there. During the last year I have had my trials and tribulations with the rest of you. My experience is like that editors of laundry journals express in their diaries: "Friday, down to three meals every three days. Memorandum, subscribers complain there is nothing in the paper. Saturday—We live again; a supply of cake was sent to the office from a Cleveland lady this morning with a wedding notice. After a desperate struggle with the printers we wrested a part of the spoils from them, and gave a quarter column of 'send off' to the misguided pair."

If I can get a pass I will go to Pittsburg. Understand there is a fine free lunch system there in the leading saloon. I wish I had Tanner's stomach to fall back on in my contest with inanition. Another year has passed; I will not despair. The time may come when gaunt

famine and I will be strangers. While I was musing on in this wise, a German neighbor (whose boy stole the roll last year from my wringer and used it for a ball bat) came in and said: "You Americans vuld succeed petter if you vuld insult mit your wife, and get her advices about sometings or udder. Now, I am married twenty years already and I vas not yet bald-headed. Dem American vemens don't know sometings never about his husband's peesness, and ven dem hard times cum and not so much moneys cum in de house, dot makes not some difference mit her. She must still have one of dem pull back front pettigoats mit every kind of trimmings. Pretty soon dat husband gets bankerrupted all to pieces; dey sent for de doctor und ven de doctor comes he die. Den dat vife she say, I vish I ben ded a little. Now, if a Shermans go ded, dat don't make a bit of tifference. Nobody would hardly know it, except maybe himself. His vife goes mit de peesness on shust like notings had happened to somebody. Americans vimens and Sherman vimens was a different kind of peobles. For instinct, last year Brown goes mit me in de butcher peesness together. He vas American man and so vas his vife. Vell, many times ven efery peobles got the panic pooty bad, dot voomans come to her husban and say she must hav money. Den she goes out ridin mit the carriages. Vonce on a time Brown say to me, Bender, I vouldn't pe henpecked, so he went off and got himself tight just pecause his vife say please don't do dot. Den he sets down on his back mit de floor, und if I am not dare dot time he never vould got home.

Vell, dat night my wife und me we had a little talk about sometings. On de next day I say to Brown: 'Look here vonst, my wife, she makes sausages and vorks in dot store; also my taughter, she vorks by the store und makes hed-skeeses, and your vife vas gonen out riddin all de times mit de horse cars, and a patent tide pack

cardinal stockings. Now, your vife must go work. Cut peef steaks and make sauer kraut, or else we divide not equally any more dot expenses mit de profits of de peesness.'

Vell, Brown he goes home und tell his vife about dot. Den she comes mit Brown pooty quick rount, und we had a misunderstandings about sometings, in which everyboty took part, including my leetle dog Kaiser. Pooty soon up comes a policeman und arrests us for breeches of promise to keep de peaces, und salting de battery or sometings. Den de firm of Bender und Brown was broke up. I go bout my peesness; Brown goes mit his peesness. My vife she helps in de store; his vife rides mit de horse car und every night vas by de theatre. Vots de gonsequences? Along cums de panics dat knocks Brown higher dan two kites. By chiminy! My income vas shtill more as my outcome. Brown shtill goes around dat street mit his hands out of his pocket und he don't got a cent to his back."

There is more in the undercurrent of Bender's remarks than on the surface. His very earnestness excites an activity that always attracts trade. His being content with small beginnings, and his economy in management, and keeping expenses down, furnishes practical thoughts for every one who would be a successful laundryman. There is very little credit to laundrymen whose business is successful when everything is prosperous; if he outstrips his competitors when only by constant care and good judgment and mercantile capacity disaster is averted, his success is worthy of remark; but shame on the laundryman, who, like Brown, endeavors to get a living and build up a business on the efforts of his competitor by buying information from the hands in his competitor's employ, offering more wages, higher commissions to agents, and doing work below cost. He may be engaged in a business whose details he knows little or nothing of, and in

which he has embarked because it was represented to him as profitable.

He must accept statements of foremen and subordinates as to cost of production. He adds what he considers a small profit, and thinks he is making money. He awakens to a realization of the fact that his bank account has dwindled, and his original capital sadly impaired. In his doing work below cost he acts with premeditation, and sets about his work in a systematic way, estimates his own resources and those of his competitors. He enters upon his rule or ruin policy, and in many cases it is ruin to him, and ought to be. He, in every case, exerts an influence that is evil.

We have an example in mind where a laundryman, and a member of this Association, wrought demoralization through the cities by cutting prices. People wondered how it was done. They found out all about it when he failed with a deficit of several thousand.

The business and trade would be better off had he never lived. The laundryman who cuts prices below a living profit, is of no benefit to anybody. He breaks down honorable, legitimate rivalry that belongs to a healthy trade. The movement of a world's business depends on a just remuneration for labor and reasonable profit on product. The one who undersells the fair cost of production does so at a loss that is not adequately represented by money, and these growing evils are bound to wreck the laundry trade sooner than your Chinese immigration. As an association we need to bestir ourselves on this point. Every laundryman's motto should be, "Not how cheap can I do the work, but how can I improve and do it best?"

The future of the business lies within ourselves. The demand for first-class work is constantly growing, and what we must do is to meet that demand and make the laundry one of the most important industries in the country for the amount of money invested.

Laundrymen need a great deal of educating on the point of advertising. There is no business that can properly be so largely increased by judicious advertising as the laundry.

To achieve the fullest success in the laundry there must be a cordial feeling between employer and employes; and unless the employer treats his employes kindly and fairly, this is impossible. If a laundryman brings all his better feelings to the interest of money getting, he may be successful from a financial point of view; but instead of being a man, he degenerates into a mere money-making machine. Man has a higher mission than this in this world; he has other desires to satisfy than his own selfish ambitions, and his duties to his fellow-men will not permit him to shut himself up and keep out those better impulses which will make his employes love and respect him. Unless he has the good will of those who serve him, he will never be well served, and unless he deals kindly and generously, as well as justly, with those who work for him, he will never have their good will. And in return an employer has a right to expect strict business habits and principles, clean, attractive surroundings, strict fulfillment of promises, polite and dignified attention to work, and individual accountability on the part of employes for faithful work.

Few of us realize the important part a little polish plays in this world. There are several kinds of polish; the polish of nobility, of the true gentleman, and the fop; and last, but not least, starch polish. Some laundrymen seem to suppose that if they only turn out work that shines, they are workmen of the first order. The shine produced by these fellows is truly wonderful. In my opinion the most desirable polish is that produced which, when the work is done, has the appearance of being part of the fabric itself rather than a plaster on the outside.

There has been enough said on the different kinds of soap and their qualities to confuse a Philadelphia lawyer.

My experience is, be practical; post yourself on the results you may obtain with the different kinds of soap in the water you are using, and then stick to what you have the best results from, until you are satisfied, by practical results, that there are better goods on the market.

There never was a time in the history of the laundry trade more than now (and this to every observing person is apparent) when good judgment should be exercised in conducting the business; but if the attention of the laundrymen is diverted from the affairs of the day by the endeavor to account theoretically for the conditions which exist, it is apt to be at the expense of practical work. The chances of success are generally in favor of the laundryman who, instead of dwelling on abstract questions, gives his time to watching all details of his business. Those who are quick by practice to discover and act promptly, generally succeed best.

There never was a time, probably, in the world's history, when high success in any profession demanded harder or more incessant labor than now. Men can no longer, at one leap, attain eminent positions. The world, as Emerson says, is no longer clay, but rather iron in the hands of its workers, and men have got to hammer out a place for themselves by steady, rugged blows. Above all, a deep and burning enthusiasm is wanted in every man who would achieve great ends. No great thing is or can be won without it. It is a quality that is seen wherever there are earnest and determined workers, in the silence of the study, the painting of a picture and in the carving of a statue.

Ability, learning, accomplishment, opportunity, are all well enough, but they do not, of themselves, insure success. Thousands have all these, and live and die without benefiting themselves or others. Men often scale the dizzy heights of fame and excellence because of firm faith and high resolve. It is this stolid faith in one's mission,

the rooted belief that it is the one thing to which he has been called, this enthusiasm in attracting an Aggassiz to the Alps or the Amazons, impelling a Pliny to explore the volcanoes in which he is to lose his life, that makes the heroic spirit; and wherever it is found, success, sooner or later, is almost inevitable. Men do not succeed because they do not put heart in their work.

But I must stop this altogether too long essay, thanking you greatly for your kind indulgence. I would like to say in conclusion, brothers, let us put our shoulders to the Association wheels during the coming year, and turn them so fast that you cannot see the spokes, with that vim and energy, perseverance and grit, that when we come together next year we will find that we have accomplished so much that we will be compelled to start on a new wheel.

Essays Read at the Convention held in St. Louis, Mo., October, 1891, and Discussion on Same.

INSURANCE.

BY E. A. BARNES, PITTSBURGH, PA.

MR. PRESIDENT: When you wrote me March 7th last, desiring me to investigate the matter of Mutual Fire and Accident Insurance, I fully expected to give it careful attention. A member of my family who has been an invalid for many years has been so much worse during the past few months as to make it next to impossible for me to give the insurance matter the attention that its importance requires, and this must be my excuse for what is wanting in the following:

There is no doubt that all laundrymen have about the same experience in the matter of fire insurance, and that is, that rates are steadily advancing, and also that underwriters are endeavoring to make you believe that a laundry is a hazardous risk as an excuse for such advance.

This is not the case. The cause of old line fire insurance companies advancing rates is attributable to the fact that the mutual fire insurance companies are gradually gathering up the good risks, and leaving the poor or hazardous one to the old line companies; the result of this is, that the old line insurance companies have been losing money and of necessity must advance rates.

The fire loss is a most oppressive tax, and much of which can be abated by the application of well-established means of prevention. In a practical sense certain fires are to be considered as unpreventable, being caused by exposure to fires in other burning buildings, and therefore entirely beyond the control of the injured party. Other fires proceed from causes so rare that they are not anticipated, and in any event it might not be feasible to prevent their occurrence. There, are, however, very few fires whose destructive results might not have been prevented by the exercise of precautions entirely feasible in their nature.

Care is the most important element in prevention and extinguishment of fires.

The first mutual fire insurance company was organized in 1835, the Manufacturers' Mutual Fire Insurance Company of Rhode Island, at Providence. At the present time there are nineteen associated mutual companies working together.

In 1888 these nineteen companies wrote in risks $475,261,438; received in premiums on same, $4,315,804.91; dividends returned on same, $3,062,308.86; average rate charged, 89 34-100c.

Dividend returned, per $100 of risk taken 75½ per cent; per $100 of risk taken 67 45-100c.

Losses, expense and taxes per $100 of risk taken, 21 89-100c.

Risks outstanding December 31, 1888, $473,628,628.

This is a remarkable showing and has only been brought about by the rules laid down by these companies.

The first and principal object aimed at in the mutual system is to prevent loss by fire.

The second and subordinate purpose is to pay such idemnity in money as will cover losses. Numerous small losses must unavoidably occur, but large ones are generally attributable to faults in the construction or operation of the works insured.

The payment in such cases is considered, in a measure, as a penalty imposed upon the executive officers of mutual companies and to the insured alike, for not having foreseen and provided adequately against any such considerable loss.

In order to prevent loss to the assured in the interruption of business, and to the insurance companies in money, in consequence of a fire, the admissions to membership are very strict.

It seldom happens, however, unless the buildings or works have been constructed under the supervision, or with the knowledge of the methods of the mutual companies, and unless the appliances for preventing fire has been placed in the works in accordance with their rules, that a risk can be taken without the expenditure of a considerable sum of money by the applicant to perfect or protect it. In fact it may be said that it usually costs an applicant a sum of money equal to one year's full premium to qualify the risk for admission.

These companies have a very thorough system of construction of buildings. Whenever the circumstances will permit the influence of the mutual companies are given to construction of buildings not exceeding one story and basement.

They are also very particular about apparatus for putting out fires. First, an ample supply of water; second, one or more fire pumps; third, automatic sprinklers; lastly, and most important, an ample supply of buckets to be kept full of water at all times ready for use. More

fires being put out with buckets, than with any other appliance. Their advice is to put in an ample supply of buckets and then double it.

A watchman should be a strong, efficient man, and not as is often the case, employed for the position because he is good for nothing else and can therefore be hired cheaply. In many instances a dog is a very valuable ally for a watchman.

These methods of supervision, building and equipments do not refer to any ideality, but to measures which have been carried into effect for the purpose of reducing the fire loss, the result of such action being to reduce the cost of insurance to a very low figure. This has been accomplished by the consideration of sources of danger and their abatement, and it has been proven that it is cheaper to prevent a fire than to sustain a loss.

The concurrent action of a large number of minds engaged on the same problem will always lead to a satisfactory solution.

Now as to whether we, as laundrymen, or as an organization, can do anything in the matter is for you to say. It is a matter that has many phases that will puzzle you as you delve into it.

I hand you, in connection with this paper, a copy of the constitution and by-laws of the Quincy Mutual Fire Insurance Company, so as to give you an idea of their main governing rules

I endeavored to get as much information from parties as possible. I quote from one New England manufacturer's letter to me of recent date:

"I have looked into the insurance matter some, and do not find anything flattering to report. Each state has its own insurance laws, that must be complied with by every company doing business there. Trade companies have not all been successful. The Manufacturers' of Massachusetts is a success, but they make their restric-

tions such that they do not have any but the best makable risks; buildings must be constructed on their plan or altered to their ideas. Every mechanical known appliance of safety is applied."

After considering this matter you may think the organization of a mutual company not feasible. Another way to do would be to perfect arrangements by which the L. N. A. could place risks for its members in old companies at reduced rates. The entire secret of low rates is in supplying suitable preventatives against fire.

The association could, through an officer elected for the purpose, place risks for its members, by certifying that they had complied with the rules of the association by supplying safeguards against fire. One of the great hindrances to a mutual organization is that we have no general insurance laws.

In the matter of accidental insurance in our laundries, I do think we should have our own accident insurance company, and can at present see no reason to prevent our having one. Rates for accident insurance in laundries are altogether too high. This matter I will not attempt to elaborate upon, but leave it with you for your earnest consideration, as it is almost impossible to obtain any information such as you would desire from the factory accident insurance companies. They are all close corporations, and wisely keep their business to themselves, however much we might desire to investigate their inside workings.

LAUNDRY ACCOUNTS.

BY S. B. WATERS, CINCINNATI, OHIO.

I owe an apology to the members of the National Association for not being present. Also that I have not given the time and thought that should have been given

to the subject that the president has alloted me to discourse upon. However, the little that I write more in the nature of a suggestion, I think is entirely worthy of your serious consideration. It was a subject I should like to have given weeks of attention to, instead of one hour, but circumstances were such that I could not.

To give a detailed account of the innumerable systems of keeping accounts, as practiced by those engaged in the laundry business, would be as tedious a task as to clearly define the many reforms that the People's Party propose to inflict upon this unsuspecting country of ours. I agree, however, with "Sockless Simpson's" sentiments when he dramatically exclaimed, "We want reform!" I think angels must have inspired those three words, but it will take Divine power to enforce them.

We want reform in laundry accounts, positive, emphatic, practical. Can we have it? How many of us have propounded that question only to brush it away as a theory. But what I shall aim to prove in this brief paper, coupled with a very limited ability to say just what I think, is that it is not a theory, but a good common sense, practical, business proposition. Or, to put this idea in good American English, we want an absolute cash system of doing business in the highest sense that the word implies.

Perchance there will be many that will doubt the feasibility of the idea, but let me say in response, that I can cite one instance, in which it is very clearly demonstrated that such can be the case: That of Lexington, Ky., Mr. Kline for my authority. With all due respect to the people south of the Mason and Dixie line, and with an utter abhorrence of the flounting of the "Bloody Shirt," which American laundries have washed as white as snow, I will say if there is a class that is dilatory or chronically inclined to forget to pay honest laundry debts, it exists

in that section of the country, with a close following at every other point of the compass.

Mr. Kline, with others, hit upon and decided to treat the people of Lexington to a cash system of accounts. One laundry concern—as is usually the case—held back, pronounced it "theory," but was finally won over to the enemy (?) and here I may state the result as I have it from an authoritative source. The laundry business has increased. They go to bank every day, for they have something to deposit. Not one has lost a customer. They have reduced office help. They are making money. They have actually been congratulated by the business men of the town as being the *first* to show that one does not necessarily have to do business for *dead beats* free of charge.

I heard a Cincinnati laundryman say to a representative of the craft from Lexington, incidentally, "O, well you do business in heaven!" Heaven exists everywhere if we seek it.

To revert back to the old system of accounts. We find the regulation, cash, trust and charge customers. First, the cash; that is all right. Second, trust; well we say to our emissaries who handle the ribbons, "You may trust that party if no one should happen to be home to pay." As a matter of history no one was home. Next week he has a new laundry. Perhaps after infinite chasing around you locate your man and get your money with the assistance of a collector—at all the way from $10 to $20 a week. You will actually smile when the collector tells you that the man "cussed" and said he was a collar short and that the bundle was not on time. But what's all that? Why nothing; you got your money. Third, charge customers; they are a species that are not quite so dangerous; passively submissive from fact that they are honored with a ledger account. But I have heard of such a case as this: A statement of account was mailed on the first of

the month; check came back promptly less $2.50 for a shirt lost. That is the first you have heard of it, but it does not signify, for the gentle wife informs you that "Mr. Smith bought six shirts last November and now I find only five in his drawer." The shrinkage of shirts, collars and cuffs, in drawers in charge of customers, has always been to me one of those exquisite mysteries that help to fill up life's vacuum, and lend charm to an evening cigar.

It will hardly be necessary for me to go over the various methods of collecting accounts, as we all seek for a common end, that of getting what is due us. That we *do not* get it all, is due to the prevailing system.

A suggestion as to the best method of adopting a cash system that presents itself at present writing, and clearly a safe one, is as follows, relative to large cities and through the instrumentality of local associations: First, find if all agree on the subject; certainly it is to the interests of all to agree. If so, second, incorporate your association under your state laws, thereby becoming a legal body amenable to law. Third, bind *every* laundryman in the business to the sum of not less than $500, better $1,000, for good faith. Bond, if violated collectable by the officers of your association. There may be some feeling of resentment at the idea of bond, but while you may all be honest, honorable and upright now, the devil himself cannot guarantee that all will remain so, as all may know that have had interests in associations.

The same suggestions would apply even to small towns where as many as two are engaged in the craft, with a possible exception of incorporating. To get at the subject minutely under a cash regime, let all bundles to be delivered be taken to their destination and cash collected, or if no one is there to pay for same, bring back. Deliver next day; if same complaint again, leave a little printed slip informing party that the bundle is at the office; that

it has been delivered twice, but no one there to pay for same. Let the matter be well advertised a month before going into force, both by printed slips put into each bundle sent out, also large newspaper advertisements signed by all the concerns in the business, stating the date of change, which also will give you ample time to collect old accounts.

The public will soon see the justice of the move and rather than condemn, will applaud. Laundry work is not *merchandise.* It represents labor, wages of which constitute almost one-half of your gross receipts in business. To sum up the advantages of such a system, viz: Reduction of office salaries, $10 to $40 a week; dispose of your collector at $10 to $40 a week; $500 worth of worry saved fortnightly; no chance for dishonest drivers; no chance for dishonest collectors; daily bank deposits.

The business will soon become respected, as will those engaged in it. You will build a stone front house in a few years. You will greet your wife on going home with some show of affection.

ADVERTISING.

BY JOHN R. PURCHASE, MINNEAPOLIS, MINN.

Some time since, I received word from our secretary that there would be a discussion at this convention upon the subject of "Laundry Advertising," accompanied by a request that I open the said discussion. Since then, when giving time, thought and attention to the matter, I have concluded that to confine myself to laundry advertising was not necessary and hardly advisable, for the reason that I think a broader field will prove more profitable; hence I take the general subject of advertising, making it applicable to the laundry business so far as my ability to do so reaches.

To advertise is to give notice; to make known, to publish. This may be done by word of mouth or otherwise. It is advertising in principle though perhaps not in extent. An ordinary news item is as much an advertisement, according to the proper definition of the word, as the announcement of a business concern; but the advertisement as commonly known, that is, the paid for business announcement, is what we are concerned in, and to that we will endeavor herein to direct our attention.

A business advertisement, as generally taken, is a public announcement in the interests of some business concern, generally giving the nature of the business engaged in, the location and name of the proprietor or proprietors, and is always an implied, if not a specific, solicitation of the patronage of the reader.

The first public advertisement appears to have been in the shape of bill-posting; and advertising by printing in regular publications seems to have originated with the class of literature commonly called "periodicals." The first regular newspaper, *The Certain News of this Present Week*, published in England in 1622, did not contain any advertisements, but they appeared in something like the present form in 1652. Advertisements of runaway apprentices, thieves and other outlaws made up most of the business.

Books were the first articles of commerce advertised, being soon followed by groceries. The plague in England called out the first medical advertisement. In 1700 the practice appears to have been quite general in England.

The first regular newspaper in America, *The Boston News Letter*, was established in 1704 and was often issued without a single advertisement. It continued to be published forty years before reaching a circulation of 300, and it needed fifteen years after the establishing of this first newspaper to add a second and third.

With the increase of shipping interests newspapers appeared in larger numbers and advertisements began to multiply. In 1775 the first newspaper in New York, *The Gazette*, was commenced, and in 1728 Philadelphia founded the *Journal* which, at its fortieth number passed into the hands of Benjamin Franklin. At this time the country contained but seven newspapers. In 1787 the first "daily" was commenced in New York, and in the following year (the same in which the *London Times* was established) it contained thirty-four advertisements. Thus it seems that England and America made advertising a business more nearly at the same time than is usually supposed.

It required forty years for the first newspaper in the city of Boston to reach a circulation of 300, and fifteen years to develop a competitor, while in twenty years after the dawn of the era of advertising from 1810—when there were but thirty-two papers in the State of Massachusetts—to 1830, we find 1,000 in the United States, and in 1840, 1,401.

All of the benefits that are due to advertising will probably never be known; they certainly are not confined to advertisers and the profits that have been made on their increased sales; but the public, the world at large, has been greatly benefited through advertising.

All will admit that the press has proven itself to be one of the greatest civilizers, and the advancement of the press, both as to its increase in number of publications and merits of the same, is due, I believe, more to advertising than to any other thing. The improvement in our publications, from the daily paper to the monthly magazine, to say nothing of their increase in number, is something wonderful; not only in the procuring of late and important news and the advancement and spread of knowledge of scientific subjects, but in the encouragement of important exploring expeditions. These accom-

plishments have been made possible only through the means of wealth accumulated by publishers as the profits of advertising. Does any one suppose that the accumulation of news from all parts of the world to be found in the daily New York *Herald* on any morning could profitably be gathered and published at anywhere near twice the price that the paper now sells for, were it not for its advertising patronage? Or does any one suppose that the *North American Review*, and other similar publications, could pay the price for the talent that they employ, were it not for their receipts from advertising? Henry M. Stanley was sent to Africa in search of Dr. Livingstone by the proprietors of the New York *Herald;* and after finding Dr. Livingstone and returning, he was again sent by the proprietors of the New York *Herald;* and *London Telegraph* to further explore that country, and it need not be wondered at if that country is, in the course of time, as well settled by Europeans as America now is.

Some business men consider the advertising solicitor, or the publication which he represents, an object of charity; and if they finally give him an "ad," do so with a well—I-suppose-that-I-have-got-to-help-support-you sort of a feeling, and some citizens subscribe to their local publications in the same spirit; but this is all a mistake. If they fail to contribute their share to the support of their press they make a mistake indeed. The business world owes to itself to continue a liberal patronage and support to the press. The business portion of a community owes to their local press a liberal support, and every loyal citizen who is in business will pay his share of the same. A community is known by its paper or papers, and many communities are too painfully aware of the fact that they are *not* known because of their lack in this direction; some offering considerable bonus for the establishment of a newspaper plant.

All business men are advertisers to a greater or less extent, although I have heard it said that laundrymen do not as a rule advertise. Every man who is engaged in any business advertises, according to my belief. Every laundryman who keeps an office separate from the balance of his establishment, advertises; every laundryman who puts a wagon on the street, advertises; though in many cases they may be advertising unconsciously. The laundryman advertises to such of his customers as are in position to know and capable of judging, that he is or is not doing as good work as his competitor; that he is or is not improving the quality of his work; that he is or is not prompt in getting his work out, and that he is or is not enterprising and worthy of their patronage.

Through our offices and clerks we advertise to our customers the facts, as they may be, that we are or are not neat, courteous and obliging, and the customers draw their own conclusions from said advertisement as to whether or not that is the place they wish to patronize and whether or not their patronage will be appreciated there.

When we put a wagon on the street we advertise. If we have our name, business and location on it we make known to the public that it is a laundry wagon, that we are in the laundry business, where they may find us, as well as where they can find a laundry. If we neglect to put our name, business and location on our wagon, we advertise to those who happen to know us and that the same is our wagon, the fact that we are either lacking in judgment when we allow such an opportunity for an advertisement to be lost, or that perhaps we have all the trade we want and do not care to invite any more.

Every progressive laundryman can and does advertise in many similarly simple and almost unconscious ways. When he strikes anything new that tends to improve his work; when he has overcome the yellow edge, black speck, bluing or other troubles, he loses no opportunity

to inform his patrons, especially such of them as may have theretofore complained of any of those things, in order that he may thereby save or regain their trade. When he has improved his facilities or increased them; has put in a machine to dampen collars so that he can turn them down without cracking them; or a machine that can iron all his collars in one tenth the time it took by hand, do them twice as well and enable him not only to get his work out quicker but better, he loses no opportunity to inform his patrons of these advantages. In many ways similar to the above we advertise almost unconsciously and at no special extra expense; and who will question the policy? They are methods of advertising pure and simple, in principle and practice; it is merely a question of extent. If it pays us to notify our customers individually of the better things that we are enabled to furnish them, why will it not pay to go further and notify the public? I claim that it will. We cannot expect to be able to meet all of our customers personally and inform them of these matters, and some of them are matters of importance that it would prove vastly to our interest to have known. We can, for a consideration, inform them systematically, by circular hand bills, by well-written notices in the newspapers, and by other methods. This brings us to the questions: How much can we afford to spend in this direction, and what are the best methods to expend that sum in?

These questions as to how much we will be justified in spending for advertising, and what methods we will employ, each must answer for himself, and in answering each will probably be governed, first, by whether he has anything to say or not; secondly, by the merits of the mediums at his disposal, their respective cost and value and his ability to pay the price. I should say that no business man should pay less for advertising than he does for rent.

Now the first factor in governing this decision, that is, as to whether he has anything to say or not, is worthy of deep consideration, more so than may at first appear, for the reason that it may result in finding that he has nothing to say, and that of course, will dispose of the whole matter. I think that I can better explain my meaning by relating an anecdote: There was a certain publishing concern getting together the material for an atlas and history of a certain county in one of our western states. A part of the business was the collection of histories of the families of prominent citizens for publication, together with the photograph of the head of the family; all of this, of course, for a consideration. Well, the agent approached a certain well-to-do resident, convinced him that it was his duty to patronize and encourage the work, etc., but when the matter got down to the photograph and the family history, the old fellow says: "Now see here, mister, I've got a picture of myself and you can put her in; we have also a family history, but I guess we better not say anything about that." The point is just here: If you are not doing as good work as your neighbor, or if you are not getting your work out as promptly as your neighbor, you will certainly not find it profitable to deceive the public by saying that you *are*, and inviting them to prove the lie.

All advertisements are implied in invitations to the public, and it is well before inviting strangers to trade to be sure that we can treat them in such a manner that they will be pleased and we profited thereby. If you are not so prepared set yourselves about getting ready and when you have made a step in advancement inform the public of it. My plan, in short, is -- be ready to advertise before you begin.

Having decided to advertise, go no further without having a definite plan as to how much money you will put in and as to what mediums you will employ. Great

care and sound judgment should enter into these decisions. You can spend too little money and you can spend too much; but the error is more frequently made in spending too little. As to the mediums, I believe that the newspapers are the best, as a rule. The main point, however, is to know whom you want to reach; that is, what class of readers you want to reach, and then use those mediums which reach the greatest number of that class for the least money. There is no doubt that advertising, properly and judiciously done, pays; but what interests you most is—will it pay you? and right here let me enter a little negro cabin philosophy: "There's a heap of dreadful music in the very finest fiddle;" likewise is there heaps of good money lost in the most profitable branch of business. You cannot dwell too much in selecting the proper mediums through which to spend your money for advertising. It is your most likely point of error, as far as making the venture profitable goes. But having concluded on this point and made your contracts, don't think that you can then lay back and peacefully reap the benefit, for the benefit of advertising is not built that way. You have now to furnish copy. You have engaged your space, but the success of the venture depends largely on the use that you make of it. You have selected the field of your labor, but your labor proper has only just commenced. You can now begin to send your messages to the public, enlightening them as to your business, and the advantages that trading with you will bring them; and herein lies the opportunity for brains, skill, judgment, and a thorough knowledge of human nature; brains to contrive, skill and judgment to arrange, and a thorough knowledge of human nature to revise and prune so that your "ad" will catch the attention of the public with certainty and at the same time not offend. One of the secrets of advertising is to say the right thing at the right time, in the right place and in the right way.

Sir Joshua Reynolds, being asked what he mixed his colors with, replied, "with brains, sir." Apply this to your advertising.

Circumstances must govern largely as to what is said in an "ad," but I can advise thus far: State nothing but the truth, and state it in a way that cannot by impertinent or slangy phrases offend. The same thing quoted with slight alteration sometimes makes a vastly different impression. This is forcibly illustrated in the erasures, substitutions and alterations made by President Abraham Lincoln in the dispatch sent to Charles Francis Adams, the United States Minister at the Court of St. James, England, at an early period of our late war, by William H. Seward, then Secretary of State; the latter a man of whom one of our ablest journalists of that day says: "He was perhaps the ablest diplomat of the century," the same writer saying further that without question these corrections saved the nation from a war with England, which, at that period would probably have resulted in the establishment of the Southern Confederacy. Those who appreciate the delicate shades of meaning in words (and I think that all who are advertising, or who intend to advertise, should have as full an appreciation of the same as it is possible for them to have) will certainly profit by a perusal of the above mentioned matter, which can be found in "Reminiscences of Abraham Lincoln." One illustration of the wonderful judgment of President Lincoln in the meaning and value of words in the correction of the dispatch referred to, was the substitution of "hurtful" for "wrongful;" the word *wrongful* as used implied *intent to harm*, but in the word *hurtful* the charge of intent is not found.

I trust that I will be pardoned for dwelling at length on some of these points that may seem to be of minor importance, for I consider it of great importance that they be fully understood.

I have seen and heard of ads that I consider inadvisable; one for instance in a street car, reading to the effect that "the man who sits beneath wears our pants;" and seated below this ad was a portly woman. The effect on the readers on the opposite side of the car may have been mixed with humor, but there is no doubt that contempt for the advertiser played an important part.

A sample of an inadvisable ad in our own business reads, "You think they are not seen? That soiled collar, those dirty cuffs, and the shirt under that big necktie? Well, they are." Such an ad might have some effect on some people who wear their goods altogether too long. and increase the amount of laundry work, but its benefit to the advertiser is very questionable. How uncomfortable it would make a person feel, who, through force of circumstances or oversight, finds himself with soiled linen on, and such an "ad" staring him in the face from a street car panel. He would, of course, imagine that all the passengers were examining each others' linen, and had discovered the condition of his own, and the result would be to create anything but a favorable impression of the advertiser; just the contrary to what is intended. "Ads" should be written to please the reader and profit the advertiser, not to the displeasure of the reader and loss to the advertiser.

Put some humor in your advertising occasionally. Man is a laughing animal, and even the most serious of us appreciate a little fun now and then. A little spice is also a good thing, and serves the reader as a relish, whetting his appetite for more.

Bring your ad to an effective point. It should, like the honey-bee, have its sting in the tail. Distribute your advertising so as to make it continuous, as near as possible, having it appear in every issue of the mediums that you use, during the time you intend advertising. Spasmodic advertising is the most costly. What would you

think of a person rowing a boat who turned around every few strokes to see how far he had gotten? Ten one dollar ads in ten consecutive issues are worth considerably more than one ten dollar ad. "Keep everlastingly at it." It's the "constant dropping that wears away the rock." Little irritations will wear on the public. Don't use any second-hand ad that has been the "rounds." Don't copy. Originality is necessary to a good advertisement, unless you can materially improve on what you have taken to copy.

If you deem advertising advisable, and feel that you cannot formulate a proper and profitable plan, and write good, clean, clear cut, sharp, spicy and original ads, worthy of the expense you are willing to go to, secure the services of someone who can do this for you; this can readily be done, and I believe at a reasonable figure. There are a great many people engaged in the business of advertising exclusively. I do not refer to publishers, but to people whose business consists solely of writing ads. Some of our large advertisers, such as Hood and Ayer of Sarsaparilla fame, Pear of soap fame, and others of that class, have employment perhaps for a number of persons in their advertising, but there are also advertising experts who make a business of supplying the wants of small advertisers, and they can be readily found. Or, if disposed to improve yourself in the art, get some of the good books that have been issued on the subject.

Subscribe to *Printers Ink*, a spicy wide-awake weekly publication devoted exclusively to advertising; also to *Profitable Advertising*, a monthly publication of the same nature.

The advertising of today is far different from what it was a few years ago. I doubt if there has been more marked a change in any branch of business. It has indeed become an art, and is fast becoming a science. Some years ago space cost but little; merchants used it

for little else than the insertion of a plain business card, and this stood year in and year out; but the ad in the daily paper of today must be made up with skill and care, and the matter must be changed often to justify the use of the space.

The art of writing an ad that will insure a favorable result, is an art indeed, and such as few are capable of, compared to the opportunities open to them. I believe that in no other field are there so many opportunities for such as have the necessary talent, not even excepting the recently opened field of electricity.

Mr. N. C. Shaw (Erie, Pa): Mr. President—I think Mr. Purchase covered every point when he said men advertise unconsciously. I would suggest a mode of advertising, which almost all of us do. First: We want to stand well in our own city. Next: Pay our bills promptly. Treat your help well. Make your business appear nice. Give people to understand you do not abuse your horses. There are a great many tender-hearted ladies in the world, and they like to see you drive up to their houses with handsome, fat horses, nice harness, and wagons. They will say, "Your horses and wagons look nice. They look as though you attended to your business, as though you did not neglect anything." That is my way of advertising, and I think I am quite successful for a small concern.

If I cannot pay all my bills I make the people outside the city wait—the supply men and the machinery dealers. [Laughter.] When my wife goes down street I intend that she shall have credit in any store in the city. If she comes home at noon and says, "I went into the drygoods store and purchased some small articles, amounting to two or three dollars." I will say, "Whereabouts?" and I make it a point to go down there within an hour and ask for the bill. Then I will instruct that man that if any of my family come down there to buy anything to

give them credit, and immediately after the purchase to send the bill to my place of business, and if that is done I send a check as soon as it is received. That is one of my ways of advertising.

In my business I own three delivery wagons; two of these I run most of the time. The third is not a very good one and I do not take that one out unless compelled to.

My horses are groomed as well as anybody's horses. I have a box stall for every horse. I feed but three quarts of oats at a feed, as nice, clean oats as I can buy. Much harm is done by working horses hard and feeding six or eight quarts of oats to make up for it. My horses never work over half a day, and they always have one day of rest besides Sunday in each week. The expense of my barn is not over ten dollars per horse a month.

I disagree with some people about newspaper advertising. I never fail to have an article in the daily paper if I have something to say. If I get a new machine every one in town knows it. I do not expend $150 per year for a card in a paper giving my place of business. I think a local item better than space in the advertising columns. I pay ten cents a line to notify my customers that I am attending the National Laundrymen's convention, and it costs me $2.50 to say that I have gone to attend the convention. I don't know as that will do me any good, but it looks as though if I am a member of the National Association, I am a little better than a washhouse. [Laughter.]

Mr. Syers (Louisville): With all due respect to Brother Shaw, his plan may do in Pennsylvania; but I know of a laundry that started in with thirteen handsome wagons, thirty-five horses, and all handsome drivers, and I understand in about six months the sheriff got possession.

Mr. Reed (Philadelphia): I agree in the main with the remarks that have been made. I differ in one respect from Brother Shaw's method of doing business, and that

is: When my wife goes down town to do shopping I always give her the cash. [Applause.]

Mr. Conser (St. Joseph, Mo.): There is only one legitimate way of advertising in my section of the country in the laundry business—straight newspaper advertising, but the advertisements must be changed frequently and have spice, or else they are lost. I would not give 5 cents for three inches of space in a newspaper if it is to go in at haphazard. I would sooner pay a $1.50 a line a month and have preferred space on the first page.

Mr. J. W. Bowman (Sedalia, Mo.): The only benefit that I have derived from advertising has been within the last year. I had a shrewd friend who was managing a newspaper, and I always got him to write my advertisements for me and place them in the news column. If I was out of town and saw some of my agents and heard any compliments I gave them to him and he would write them up in the form of news. In less than two months from this kind of advertising my business per week increased at rapid strides from $140 to $380. I consider advertising in form of news the best method.

Mr. Speare (Boston): I believe the best advertising a man can do, if he has got a properly conducted laundry, is to have the public come in to see it and take them through his plant. It will bring customers every time. A great many people are prejudiced against laundries. The only way to overcome that prejudice is to have them see them. I never have failed to secure customers from people that I have taken through my laundry.

Mr. Hastings (Indianapolis): I believe Mr. Purchase has had some experience in the same line recently, if he will state what it has been.

Mr. Purchase: I have advertised for a considerable length of time in that way, inviting the public to come in and examine the operation of the laundry, but I did not find that a great many came.

Mr. Lawrence: I have been in the habit of inviting the public into my laundry ever since I have been in the business. I keep my place in such shape that I will not be ashamed to have my neighbors and customers see it. I advertise that on certain evenings my place will be open under gas-light for inspection by the public. I have had as high as 600 people in my place in one evening. I never had one of those openings without receiving the names of a number of people as customers, asking us to call with the wagon for work. I have had the machines all at work, and had 175 ladies standing in a group watching the operation, and if one of the collars fell from the basket to the floor, and the girl stepped down to pick it up I have heard a lady say, "Never mind, the floor is as clean as the basket." I keep the floors clean so that if anything falls on them it will not get dirty.

Mr. Dolph (St. Louis): I think we are under great obligations to Mr. Purchase for his valuable paper. I am one of those whom he styles unconscious advertisers. I have had considerable experience in the last five years in newspaper advertising. I cannot say that it has paid when I consider the cost. It takes quite a time and requires the expenditure of considerable money to find out how to advertise in a newspaper. When all in a particular line advertise in the same way, no one will enjoy any advantage, because all are on the same ground. When one or two or three do the advertising they can increase their business. When I see so much money spent by our dry goods merchants I sometimes think it is not what should be called "judicious advertising." It looks very much as if they were in it and could not get out of it. I propose to keep out of newspaper advertising as long as possible.

President Royce: In my judgment, there is no question but advertising pays. I do not think that spasmodic advertising does anybody any good. I have always been a liberal advertiser, and I expect to keep it up.

AGENTS.

BY LEWIS R. SPEARE, BOSTON, MASS.

Your secretary asked me to write a paper on "agents," and unthinkingly I accepted the invitation. I have not the leisure, had I the capacity, to do justice to the subject, so that what I have to say must be fragmentary, and unsatisfactory to myself, as it probably will be to you.

One of the greatest evils, as well as one of the greatest blessings, connected with the laundry business, is the agency department. What is an agent? Webster says, "One who acts for or in place of another, by authority from him; one intrusted with the business of another; a substitute; a deputy; a factor." That I presume is what an agent ought to be, but in the laundry business does an agent always act for us? I am afraid in a great many cases an agent acts more against us than for us. Is an agent a help or a hindrance to our business? Is it better to abolish agents entirely, or to try and control them, and do the business with the agents on a legitimate basis, so that an agent will really be in the laundry business what he is described in general by Webster, "one who acts for another."

An agent collects a large amount of work at one place, and acts for us in collecting the money, so that instead of driving to a large number of houses, we are enabled to collect from a few agencies enough work to keep our laundries running.

When agencies were first established I am told that they worked without any commission; they simply accommodated the laundrymen by allowing their customers to leave their bundles, and received no compensation for collecting when the bundles were delivered, the agent being perfectly satisfied to do the business, as the customers would call at his place, and possibly buy his merchandise.

The trouble came from the fact that very soon some agencies collected a large amount of work, and were a great advantage, and, according to the law of trade, some bright-witted laundryman decided that he could afford to pay the agent a small commission of say 10 per cent on the amount of work he collected, therefore making it an extra inducement to the agent to secure work, and at the same time offered an inducement to the agent to change to his laundry. There is no need to keep on through the long chapter of discounts, higher and higher, offered by different laundrymen, until today, in many cases, the commissions are as high as 40 per cent. I think you are all ready to grant that at 40 per cent discount there is no profit in the laundry business. If there is no profit in the laundry business at 40 per cent, why is it that laundries offer this amount to the agents, in order to hold their trade, or to obtain new trade? I think the greatest cause for carrying it to this extreme, is the fact that a great many laundrymen figure that to run their laundry successfully they must have a certain amount of work, and these large agencies offer a temptation to pay them a larger commission in order to obtain their work, and thereby, at one stroke, increase to the desired amount the work they can do profitably at their laundry. In order to obtain these large agencies (who, in some cases, receive almost work enough to run a small laundry), they offer a larger commission than they are now receiving, figuring that they can better afford to pay a higher commission to such agents, on account of the large amount of work they will bring from one place, rather than to send team and driver to perhaps thirty different places to obtain the same amount of work.

Mr. "A" says: I am doing $400 per week, net. Now, if I can secure this large agent, he will bring me $100 a week more, and if I am obliged to offer a higher commission than would be warranted on the whole of my work,

I can still make a good profit, because my place is fitted up to do $500 per week, and I can add this amount without adding one cent to my pay-roll or expenses. Therefore, although I could not afford to pay all my agents 35 per cent, I can well afford to pay this one 35 per cent, and keep the others at 20 per cent, and the average amount will come out all right.

Is Mr. "A" justified in this kind of reasoning? If he has help and expenses to do one fifth more work than he is doing, I maintain that something is radically wrong; that the first thing he should do, is to reduce his expenses to where they belong. Why should he not make a good profit out of $400? Are there not many laundries who do not over half this amount, and still make a satisfactory profit to themselves? In my experience I have found many laundries that are doing not over $250 per week, and are making a larger profit than many who are doing $600 or $700.

This method of reasoning, in my opinion, is one of the most deceptive things connected with the laundry business. Go with me to any laundry, and tell the foreman that his pay-roll is too high for the amount of work he is doing, and I will guarantee that in nine cases out of ten, he will tell you that the amount of work is a little too small, and if you will get him 20 per cent more work, he can do it without any addition to the pay-roll. Is this a fact? Get it for him, and what is the result? I have always found that at the end of a very few weeks, the percentage of the pay-roll to the amount of work done stands just about the same, or, if not, I have immediate complaints as to the quality of the work, or reports of shorts, which tend to make the life of a laundryman a burden, and almost drive him to the insane asylum.

But how about Mr. "B," the laundryman who is doing the work that Mr. "A" must have, in order to run his laundry at a profit? Is Mr. "B," to stand aside, and let

Mr. "A" take his most profitable agency, by offering to pay a larger commission? If Mr. "A's" reasoning is correct, why will not the same thing apply to Mr. "B"? Can he afford to lose $100 worth of work which he is fitted up to do, and is doing, at the present time? No, he must meet the cut of Mr. "A," and so he is obliged to pay 35 per cent to an agent whom he formerly paid but 25 per cent, and holds the work. Now what does Mr. "A" gain? Is there any satisfaction to him in the fact that he has made his brother laundryman lose 10 per cent on the work, an amount which he should still have, and which Brother "B" misses sadly?

He is not just in love with Mr. "A." He happens to know Mr. "A's" largest agent, and immediately offers him 40 per cent, and either gets him, or forces "A" to meet the cut. And so the play goes on, until Mr. "A" and Mr. "B," and all the rest of the long alphabet of laundrymen in the vicinity are doing work for less than cost, and the agents are the only ones who are happy.

What is to be done? We are all willing to admit that here is the trouble, and serious trouble too. In this vicinity you will find that laundrymen are failing. They may stand it a few years, but failures in the last year in cities where this condition prevails, have been very frequent; and those who have escaped are not feeling very happy at the present time. More failures must and will come, unless something is done, and that right speedily. Laundrymen now unite in the cry that they are in the hands of the agents, and call them all kinds of hard names. If there had been no agents established, this state of affairs would never have occurred, and you must remember it is not the agent's fault that things are in their present condition. He is a business man, and simply does what all men would do under the same circumstances, and that is, to make as much money as

possible out of their business. It is not their fault if you do the work for less than cost.

Now for the remedy! Well, I am strongly of the opinion that a man from some other place than Boston should answer this question. But, as it is much easier to advise than to act, I will continue, although for the remedy I will admit I have been obliged to go far beyond Boston. It is my firm conviction, that without a strong association and good feeling among all the leading laundrymen of the place, it will be impossible to even make a start in the right direction. But, with a strong association formed, what is to be done? Abolish all agents and deal direct with the customer? This might do in many places, but where the agency business has obtained such a hold as it has in the East, this course, if not impossible, is certainly impracticable. There are many agents in our large Eastern cities who receive work enough to run a small laundry, as I have previously stated, and they certainly would never consent to lose a business which is paying them better than any other branch of their business. The only course for them to follow would be to either open a laundry themselves or get some one to start one on the promise of their work, either of which could be accomplished in short order.

Well, then, what can be done? I maintain that these agents are men, and that they are willing the laundryman should receive a fair compensation for his part of the work, and that if met in a proper spirit they will more than meet us half way. There should be a distinct understanding as to the amount of commission they are to receive, and when they once understand that they cannot receive more by applying to other laundries they will be satisfied to receive what is a fair amount and not expect the large and ruinous commission which some of them are receiving at the present time.

The present practice keeps the agent continually fighting for a higher commission. He feels that others are receiving a higher commission than himself, and if such is the fact he is bound to keep on applying to different laundrymen until he can obtain as high a commission as are his competitors in business. They hold the work, and I am taking it for granted that we cannot do without them, and in many cities, such as Boston and New York, you would find that without them the work would go to the Chinamen. I do not want by this to be understood to infer that it is necessary to have agents in all places. Such is not the fact. I know a laundry not sixty miles from Boston, in a city of 75,000 inhabitants, where their direct trade amounts to $600 per week, and agencies in the city to less than $50 per week. But, where the agency business is firmly established it seems to me it would be a grave mistake to try to overthrow it; but if the laundry business is to be carried on with any degree of success, the agent must be controlled, and this cannot be done except by a strong local association. No one man can find the best way to remedy the evil in any locality. No one rule will apply to all localities. But through your local associations you can settle this question, so that it will meet all the requirements necessary to your particular section.

Remember that if you have a poor opinion of your brother laundryman he probably has a poor opinion of you. But if you once get together you find, as others have found before, that the other man is not such a mean fellow after all, and the oftener you come together the more firmly you will become of this conviction. One of the best things to convince you of this fact is to attend the National Convention with them, and I will guarantee that no two laundrymen from the same section will ever have any difficulties which they cannot settle themselves if they will take one trip to the National Convention to-

gether and enjoy each other's society. However, I am wandering from the subject.

I have, as yet, offered no real opinion as to the best way to overcome the trouble. As previously stated, it was impossible for me to look in the East for help in this direction. I therefore took the liberty of writing the secretaries of our associations all through this conntry, and I have to thank them for their kind and full answers, and I must say that although I have had some idea of the way the business was conducted in western cities, I never was more disgusted with the business in my own section than after reading the large number of letters received from our friends all over these United States. I lo not believe that there is a spot on this fair universe where business is so thoroughly demoralized as it is today in Boston.

You will excuse me if I quote from the letters received from the different places.

Our Boston secretary says: " All restrictions withdrawn and every one does as he pleases. Business getting in a bad way and a large number of failures in the last year."

New York's letter, written in July:

" We had an association here, but it is nearly defunct and its rules are no longer lived up to. Each laundryman now makes any terms possible with the agents, often taking work at ruinously low prices."

As we cannot find any encouragement in the East let us go West and see if anything can be found in the new country worth imitating.

We continue to quote:

Cleveland writes as follows: " We are allowed to pay not to exceed 20 per cent commission, and in case an agent wishes to change from one laundry to another, he must first settle up his account in full and receive only 15 per cent. This resolution was introduced to hold the agent under control, for on the slightest pretext he could,

perhaps, leaving an old account, change, because the laundry did not allow any claim he might put in for lost or damaged goods which were found out of reason. Now they are obliged to pay up and only obtain 15 per cent from a new laundryman, after they have settled in full with the old laundry. About one-half of our business is collected through agents. Balance is collected direct. Out of two hundred agents that one laundry has alone in this city, there are only four that they pay 25 per cent. Their good agents have stuck to them from the start, and they are allowed by the association to retain them at this figure. If an agent makes an unjust claim we simply haul down his sign, knowing that he will only get 15 per cent from any other association laundry, after he has paid his account with us. Price is universally 2c collars and cuffs; plain shirts 10c."

Do not you all, my eastern friends, start for Cleveland, as you will find by going farther, to Houston, Texas, that our brothers there are getting from 3c to 5c for collars and cuffs, and allowing from 15 to 20 per cent to agents, and at Dallas, Texas, 40c per dozen for collars and cuffs and no agents in the city.

Minneapolis reports: "Plain shirts, 12½ cents, collars and cuffs, 3c. Few agents, bills collected weekly, and 15 per cent the universal commission, which is observed in every instance."

They have a strong association, and I would quote the following from their articles of association:

"AGENTS. No member of this association shall negotiate with an agent of another member, or for any place wherein another member has had an agency or office for the purpose of employing said agent or placing his business until after the expiration of three months."

By this you will see that an agency is absolutely obliged to go out of business for three months in order to change his laundry.

So I might keep on, through city after city, and in no case outside of the East have I been able to find a city where they were doing collars and cuffs for 1½c. It may be there are many of them, but they certainly are not in our largest cities, as I have written large numbers and in no case have they reported collars and cuffs for less than 2c, and no commissions above 25 per cent.

Rochester, N. Y., which is about as near east as we can get and keep prices and agreements right, seems to have a strong association and rules which it might be well to copy. Each laundryman, however, is allowed to give whatever commission he sees fit. Prices, 10c for shirts; 2c for collars and cuffs. The general commission, however, is reported as not over 25 per cent. Instead of calling them agents in Rochester they make them "Branch," and by their agreement no laundryman has a right to take a branch office which is dropped by another.

Cincinnati: "They seem to have in this city rules in regard to agents and commission which, in my judgment, would be better to follow than any that have come to my notice. They read as follows:

"COMMISSION. *Resolved*, That per cent paid to new agents shall not be to exceed 20 per cent. That no dead-head work shall be done, and that no member shall, directly or indirectly, solicit or try to obtain the agent of any other member of this association.

"AGENTS. *Resolved*, That no member of this association be allowed to take the agent of another member unless said agent has liquidated his or her account with his or her former laundry, and that said account must be paid by the agent and not by the opposing laundry as an inducement to change to them."

An association newly formed, in a city where prices are as thoroughly demoralized as they are in Boston to-day, adopting the spirit of the above resolution and putting the

prices at 10 and 2c I think would find that these resolutions would work better than anything else they could adopt. By them every laundryman would have his own agents to deal with. He could pay his old agents any commission he pleased, but he would, at the same time, have the privilege of cutting his large commissions down to a reasonable figure, knowing that if he changed his laundry he could not get over 20 per cent at the new laundry; and, further, he would be obliged to settle his account in full. I, for one, have agents on my book that I would be very much pleased to have changed to some other laundry, provided he was only obliged to settle his account in full with me before so doing. That would be the only thing I would ask, but if in addition thereto I knew he could only receive 20 per cent, my position as a laundryman would be very strong, and whereas it would not be impossible for an agent to change on account of the quality of the work, or other good cause, he would be obliged to do so honestly and squarely, and to receive only a reasonable commission in the future.

A great many mistakes have been made by associations in trying to do too much. The Boston association was overrun with resolutions, rules and restrictions, none of which were ever put in force. I believe now that if we had only started with two such simple rules as the above and avoided all other restrictions we could have handled the business in a satisfactory manner.

Where we have agents who are bringing us a large amount, and we have been allowing them large commissions, it is very hard to immediately cut them down. In fact in some cases we believe that we can honestly afford to pay more than 20 per cent, but when we try to make a rule which shall not only apply to new agents but by which we shall have to antagonize all our present sources of income, we will find it hard to get all laundries to accept it.

We are very much pleased to note that New York has started once more in the right direction, and although this has now become an annual occurrence we shall hope that this time there will be no break in the record between now and the next annual meeting or for many years to come. I only wish I could add that Boston was likely to be in the same condition. Still I believe that the association in Boston has been of some benefit to the laundries, and in this question, like love, we will have to follow the old motto, "That it is better to have loved and lost than never to have loved at all," for we have certainly tried and failed, and we trust that is better than not to have tried at all. We can only hope that the experience we have gained in the last year will yet be of some value, and that the advertisement which was read to me only a few days ago in which collars and cuffs were at ½c apiece and shirts at 5c by an agent of a laundry, who also added, "We will call at your house and get the laundry," will be a thing of the past. This is the worst cut that has ever come to our knowledge, and we believe it was merely put in for advertising purposes, and is of no great detriment to anybody except the laundryman who is foolish enough to allow his agent to do such a thing, although he received perhaps higher prices, but 8c and 1c, and 7c and 1c is a very common thing and commissions are allowed from these prices as high as 20 per cent. How any laundryman can figure a profit from such business is more than I can tell, and certainly when in this condition the laundry business is about as demoralized as is possible. When things get at their worst, we sometimes think it is probable an improvement will commence. The tide may get very low, but there is bound to be a turn and the flood-tide will come in, and we trust that Boston, as well as her tide, will rise on this question of agents and come to the front, and that we may yet be proud of our record in the laundry business. However, it is no part of

my intention to localize this address. It has been written under many difficulties, however, and I apologize for it most heartily.

To conclude I would state that it is my firm belief that if laundrymen will come together in any city where competition is strong and the agency business has degenerated into a demoralized condition, that they can agree on a code of rules which will prove of benefit not only to themselves but also to the agents. That an agent is not absolutely a necessity, but in a great many cases is very convenient, and while I would not recommend all agencies to be abolished, I firmly believe that it would be much better that they be abolished where the business cannot be regulated by sound business principles.

Mr. Purchase: The subject of the paper just read is a serious one. It has been ably handled, and there is nothing more to be said but to add our approval. It has been said the agent is not so much the agent of the laundry as he is of the customer, but if anything goes wrong—if there is any claim for damages—for neglect, though the trouble rest with the agent himself, it is we that get the blame. I believe the only way to dispose of agents is to dispose of them entirely. We have quite a number of them in our city. I would gladly give up those I have if the other laundries would do the same. There is no profit in them. We have individual customers who bring us more work than some of the agents, and I feel that they could justly ask us why we did not allow them the same discount we allow the agents, when they bring us their work to the laundry and pay us the cash. I would hardly know what to say to such a complaint. I would like to see the agency system wiped out altogether.

Mr. Kelso (Rochester, N. Y.): In our city of Rochester no laundry is allowed more than twenty agents or branches and if the agent moves that place cannot be used as the agency of any other laundry, as the trade that has been

built up by any particular agency, we think belongs to the laundry, as it has been due to the character of the work done—the service it gives its customers.

Mr. Dolph (St. Louis): I believe with Mr. Purchase that the only way to dispose of these agencies is to dispose of them. We have had a little experience in that line here in St. Louis. We disposed of them entirely through the organizing of a local association, but only for the time being. They sprang up again through the influence of laundrymen who refused to come into our association. I would ask, What are we going to do with this question? We have to handle it in some way in the near future. We disposed of them once, but they bob up again.

Mr. Doremus (Chicago): I have had a great deal of experience with agencies in my own city and others, and have seen their workings. I think if the laundrymen in the cities will control themselves, they will be able to control agencies. It is because of a lack of confidence among laundrymen themselves. That is the condition of affairs in Boston and largely the fact in New York city. I visited one establishment in New York city last fall where, according to the statement of the bookkeeper, there was a difference of profits in five months of over $12,000 because of agencies. Laundrymen should get together and fix the percentage they will pay agents, pass resolutions, make by-laws and live up to them.

President Royce: Mr. Dolph asks what we are going to do when we succeed in killing off the agencies and they come to life again? Can any gentleman answer that question?

Mr. Dustin (St. Louis): I presume Mr. Dolph would like an answer from some one out of the city. It is the new laundries that have started that have established the agencies since they were gotten rid of. I think we can

show them what we can do. We can do the work for nothing rather than have them here. [Applause.]

Mr. Dolph: I would like to ask Mr. Doremus if he understood our condition here. After the formation of our local association we were, for a long time, without any agencies here at all. What we are trying to do is to keep them out. We don't want them.

Mr. Doremus (Chicago): I think if you wish to abandon them entirely you will find yourselves in about this condition: You will pass resolutions to abandon your agencies and they will spring up again. But who springs them up? The laundrymen whom you do not control. So I say you must control the laundrymen in order to control the agent.

Mr. Lawrence (Minneapolis): It is a fact that for a number of years I stood out in Minneapolis against the agency business. It is only within the past four years that I have had any agents at all. I was obliged at last to fall in line with the rest. I do not like it; it hurts my conscience every time I establish a new agent.

Mr. Speare: I do not believe it is policy to antagonize our agents. If we can get along without agents of course that is the best thing to do. If you have agencies you must govern them on business principles. I have an agent who brings me $500 worth of business a week. He is a square man and he works for me. When a man says his bundle is short he has got to prove it. If he says his shirt is worth $1.50 he tells him he will go and buy him one for 75 cents. If you use your agent right he will, ninety-nine times out of a hundred, use you right. I tell my agents I pay them all I can afford and if they want to go elsewhere they can go.

Mr. Chiera (Detroit): I would like to ask if the agent who brings $500 worth of business a week employs his own teams, driver and so on.

Mr. Speare: Yes, some do. They bring the work to the laundry and take it away.

Mr. Chiera: I would be very glad to pay ten per cent on all our work. My driver costs me over twenty per cent.

IS BLEACHING NECESSARY?

BY F. L. JONES, FORT WAYNE, IND.

The practice of bleaching, which in former years has been almost universal in modern laundries throughout the country, we contend is growing less general, and we believe in time must be entirely discontinued.

First, because of the expense incurred in the process, and scondly on account of the too frequently unsatisfactory results obtained.

In assuming this attitude upon a matter which we believe is of the utmost importance to all engaged in the laundrying of linen and cotton fabrics, we shall aim to present a few facts gained from an experience of fifteen years in the business, more of which time has been spent in the washroom than in the office. In our own establishment, not an ounce of bleach has been used for years. Our business has grown steadily in volume, and we are today doing better work than ever before. These facts are beyond successful contradiction. And what we have done in this line, we have no doubt others have accomplished, though their methods have differed from those we practice.

Having thus taken the ground that bleaching is not essential to the turning out of good work, we will briefly outline our mode of washing without the aid of bleach.

First and foremost, in order to successfully accomplish the desired result, is the necessity of absolutely clean, soft water. Without this the laundryman's life is made a burden to him. Too much importance cannot be attached to the manner of preparing or treating this water

preparatory to its use in the washing machine. The impurities, quantity and quality of which vary in different localities, must first be removed; and for this purpose filtering is the means employed. But the most perfect filter of which we have any knowledge fails to remove all organic impurities, or at least those held in solution; yet, some sort of filtering device is an indispensable adjunct to a laundry, as the best makes only eject all matter held in suspension. The baneful elements usually found in water supplies to our cities, are generally dispelled by means of chemicals best adapted to the nature of the salts in the regions where they have been deposited. Now then, taking it for granted that a proper analysis has been made of the water, it is rendered soft and ready for use.

This brings us to the second stage in the process of washing. The use of good soap is a very important factor, and, in our opinion, is second only to pure water, if first-class work is to be the product of your labor. It should be manufactured expressly for the purpose and for the water in which it is to be used. By the combined use of clean water, pure soap and a good washing machine, we can do excellent work without the aid of bleach, all assertions to the contrary notwithstanding. We are thus emphatic, because we are doing it daily and have been for years. We claim no originality for the method. Others equally favored can do equally good work.

But it is doubtless a fact that many have practically pursued the same plans, and yet the results failed to satisfy expectations in all cases. The soap we use in the washing machines is made by us, according to the Menzies formula, of Greenbank soda and potash. From stock made of each take equal quantities, add a little carbonate of potash or ammonia, and boil together, the result being an excellent machine soap, the most efficient detergent of which we have any knowledge. For our water it is unrivalled and more nearly results in phosphatizing or pre-

cipitating the lime than anything we have ever tried; and this action on lime must be accomplished in order to reach the object sought.

We will now describe the third and last method as practiced by us. After the sorting has been gone through with, the linen is ready to be immersed in water, the temperature of which is anywhere from 80 to 100 degrees Fahrenheit, with a sufficient quantity of soap to produce a machine full of lather. It is quite important that the water should be thoroughly broken and suds well made, before the batch is put into the water. In this suds we allow the linen to remain half an hour, when the second suds, of boiling water, is turned on and kept hot for the same length of time. The third and last suds is treated likewise, but more soap is used than in the preceding suds, and it is run say ten minutes longer, the water being kept boiling continually until it is let off preparatory to rinsing. The rinsings in boiling hot water follow, succeeded by one in cold water. Then we use cold water for the blue, the machine being half full or more, according to the size of the batch it contains. This concludes the process.

In the event that pieces are discovered which are not yet cleansed they are thrown into another machine, and again undergo a repetition of the same treatment. We use aniline blue, with which we employ acetic acid; but we have no use for any other chemical. We believe every laundry should have one or more washing machines. They are absolutely necessary, so that in case of accident to one of them, the time of washing would not have to be shortened on any batch in process of cleansing. We regard this precaution as preferable to an additional carboy or two of bleach.

In conclusion, we will say that we have had an experience with bleach extending over a period of several years, and much prefer to do without it in our business.

To sum up: Use a good filtering machine, and be certain that it does its work as it should. Make use of the best water obtainable, and in conjunction with it use soap that is suitable for it. Let linen remain in your washing machines until it is thoroughly cleansed, using soap, steam and water unsparingly.

I have no doubt we have among us many chemists who would have treated this subject from a scientific standpoint, and have made a much more interesting paper; but if my experience of fifteen years among the suds has given me a few practical ideas not shared by you all, I am only too glad that you should have the benefit of that experience, and hope to receive in a much larger degree a corresponding good from other papers read here.

Your program called for an essay. My paper, however, is simply a washroom talk. If, with soap and water for a text, and suds for the body of the discourse, you have found it *dry*, turn on a little more *water*.

WASHING.

BY FRANK JOHNSON, PROVIDENCE, R. I.

Having promised our worthy president to furnish an article on washing, and being induced to make said promise by a desire to do my little toward advancing the interest of L. N. A. and the industry we represent, and it may be a little bit "puffed up by pride and vanity" because President Royce said in his letter that he believed I was having good success in my washroom, and maintaining a very uniform color, I would say that I never had the pleasure of seeing our president at my laundry, so might reasonably suppose there might be a little "taffy" between the lines. However, taffy being pleasant medicine, I swallowed mine and pledged myself to the article.

But now that I seriously take hold of it, I fear the promise was rash, inasmuch as the subject is almost limitless and one hard to present lucidly. While to attempt to touch upon half the contingencies that are constantly arising in the washroom would take far too much of the valuable time of this convention, so I will only give a few ideas that strike me as most important considerations, and trust it may provoke discussion, thus giving us the benefit of the study and experience of others on the subject.

Probably nearly all here know how I wash white clothes, as my method has been printed in the JOURNAL several times. It is not my intention to go over that. I have it printed and anyone is welcome to it on application. What we want to get at is: How is it possible to take a load of clothes as it is received in the washroom, remove all dirt and stains and turn them out clean, whole, odorless and white, without streaks of yellow or blue, without specks or yellow edges? This is what we all want but don't always get, owing to the thousand and one unforseen and, sometimes, not easily discovered causes. We have all had such experience, and know just how vexatious it is to know by "ocular demonstration" that *something* is wrong and yet to fail after patient search to locate the trouble.

I believe the failure to thoroughly remove the various chemicals that have been used is a more frequent cause of these troubles than any other. We use soap sufficient to remove the dirt, but do we remove the soap? We use lime, but do we entirely remove the lime from the fibre of the goods? If not, the result may be black specks or yellow edges.

First, we must consider the fabric to be treated and the action the different chemicals at our command will have upon it at different degrees of temperature. It is generally well understood that cotton or linen can be treated

with alkali in considerable strength, with little or no injury, while acid is very destructive unless used with extreme care. It has been my aim to exclude acid in any form from the laundry. We know acid is used in considerable strength in bleaching, but we must consider that it is used principally under the direction of men who know its exact nature and strength, and its action on the fabric treated, and even so, we believe *they* sometimes get careless or trust to men not so experienced, for we laundrymen are often blamed for destroying goods that were rotted and destroyed by the bleaching process before they were put upon the market. Not many of us are so fortunate as to have a chemist in charge of our washroom, and to let such help as we are enabled to get dabble with acid is damaging to the trade, and is, I believe, the main root of an evil, the result of which is the cry, "They destroy the goods."

Second, we consider the nature of the matter deposited on the fabric. This, of course, varies much, and we must employ the agent best calculated to dissolve and remove the greatest portion in the shortest time and with least injury to the goods. I run clothes in cold water first because some of the most obstinate stains we have to deal with are most effectually dissolved at this temperature. The goods come to us all ready bleached, therefore it is unnecessary for us to apply a complete bleaching process. We have only to remove the dirt and stains; in fact, and in simple English, wash them clean. For this we employ soap and water, heat and motion. As far as I am able to judge the action that passes the cleansing solution through and through the goods accomplishes our purpose best, and the hydraulic machine, with soap and water enough to completely wet the goods without forming suds enough to float them, is most to the purpose. The goods come to us in different degrees of dirt and stain. The speed with which we must turn out

goods brings the necessity of washing the entire load and removing all these stains in one treatment, and as some stains are to be removed by washing alone, we must employ an agent in connection with it to accomplish what the soap fails to do; for this I advocate a mild bleaching solution of lime and soda.

Third, after we have cleansed the goods with our chemicals, whatever they may be, we should study how to remove all trace of them from the clothes, so as to have them from odor and other bad conditions. Many go at it on the principle that plenty of water will remove anything. Many a good washing is spoiled in the first rinse because the operator is blind to the simple fact that hard water, either cold or hot (cold is worse, of course), will harden the soap upon the fibre. I have never seen water naturally soft enough to remove soap properly from either cotton or wool fibre. It is my experience that it is much easier, cheaper and safer to use a little soda in the first rinse. It is easily removed in the second rinse water, and it is far better than to have to resort to a strong acid, as you would be obliged to do to remove a precipitate so formed. For instance, take a little soap of any kind, rub it upon the hand, place the hand in hard water, and what is the result? The tallow is hardened upon the flesh so that a vigorous rubbing will scarcely remove it. Place it in a mild solution of acid and you have a sticky paste. Place in a very strong acid and you destroy the paste. Now take some of the same soap and some of the same water softened with a little soda or potash and notice how quickly the soap will be removed, leaving the flesh in a soft, natural condition. This very hardening of the soap in and on the clothes is a prolific source of streaks and yellow edges, to remove which a strong acid is often resorted to and if the least carlessness is exercised the clothes are much injured if not absolutely ruined.

In reference to black specks, I will say for the benefit of those who are troubled with them and believe them insoluble, that such is not the case. They are easily, though slowly, dissolved and removed in a boiling solution of soda.

I have now mentioned but few of the many points connected with my subject, but must not take more than my share of time and will give place to others whose subjects, though they may not treat of as much moisture as mine, will be far less dry to listen to.

The president then called for a discussion upon the papers of Mr. Jones and Mr. Johnson.

Mr. Ripley said: "I would like to ask Mr. Jones about the size of the load of clothes he washes in a No. 2 or larger washer, such as he may use."

Mr. Jones: A No. 2 washer is supposed to wash seventy-five shirts; a larger one 100 or 125. We wash seventy-five in a No. 2 washer if we have them to wash.

Mr. Lawrence: Suppose you take a load of fifty shirts with a No. 2 washer. State how you would wash those fifty shirts, the amount and kind of soap, and the length of time you would wash them.

Mr. Jones: The water is well broken before it is put into the machine—is as soft as we can make, but we do not get it thoroughly soft. We start the machine going, make the suds and run the clothes in them from twenty minutes to half an hour. This water has a temperature of 80 to 100 degrees. The next suds is hot water. As soon as we begin to run with the hot water we begin to add the soap, and usually run the machine then about a half an hour. The temperature of the water is boiling hot and we aim to keep it so. This is then run off and a third suds is put on.

A member: Do you heat the soap before using it?

Mr. Jones: No, sir. We keep the third suds running ten minutes longer than the first or second. Then we are

ready to rinse. The water is at the boiling point, and is run ten, fifteen or twenty minutes. Then we put on the second rinse and conclude after that the work is done.

Mr. Shaw: What do you soften the water with?

Mr. Jones: At the present time we are using tri-sodium phosphate.

Mr. Lawrence: In what way are you introducing it?

Mr. Jones: In the first place we put in tank, but we did not have storage room enough, and we now put it right into the water.

Mr. Hasting: There is a precipitate formation, is there not?

Mr. Jones: The precipitate for the tri-sodium phosphate is a slow operation, in my experience. In addition to using the tri-sodium phosphate in the washing, we found that a cheaper way to precipitate lime held in solution after boiling was to use Hunt's refined sodium. It will precipitate the lime very effectually, but not entirely, in less time. On last Saturday, out of two tanks, each holding fifty barrels apiece, we got four barrels from the one and six from the other, not perfectly solid, of course, but something similar to what I have here in the bottle.

Mr. Doremus: I would like to ask if that is taken out after the water has got to the boiling point?

Mr. Jones: Yes, sir, it is taken out after it is brought to the boiling point. We have tried to precipitate all the lime in the water, and then it goes from the tank to the boiler, and this is what comes from the boiler (referring to scale deposit). All who have examined our water say that it is of the most villainous character they ever came in contact with.

Mr. Lawrence: About how long does it take to complete the washing and rinsing of a batch of fifty shirts?

Mr. Jones: About 1:25 minutes to complete the washing in three suds, with the two hot rinsings; from that to two hours and a half.

Mr. Dustin: How long does the bluing process take?

Mr. Jones: From ten to fifteen minutes.

Mr. Crothers: How long would it take to soften the water in a tank containing fifty barrels?

Mr. Jones: We generally hang a sack containing the refined sodium in the center of the tank at night, and by morning all the lime is supposed to be precipitated.

Mr. Crothers: With us, our tank is connected with the city pressure, and the water is drawn off as it comes in. Do you think it possible to keep the water softened so as to use it right along?

Mr. Jones: In the same manner you ought to be continually receiving the sodium, but it is practically impossible to do that where you are continually using the water. We ought to have storage enough for water for the whole day.

Mr. Bowman: I would like to ask Mr. Jones if this sodium he speaks of is injurious to the linen—if it acts like caustic soda.

Mr. Jones: No; I think it more like sal soda; that the body of it is sal soda with some other mixture. We settled upon the use of that because it acted more quickly than other things we have used. I think Hunt's refined soda contains a carbonate of soda or sal soda, and I do not know what else. I never had it analyzed.

Mr. Bowman: Where is Hunt's soda obtained?

Mr. Jones: The factory is at Indianapolis.

Mr. L. E. Hastings: How much soda do you put in the sack that you hang in the tank at night?

Mr. Jones: We put in about eight pounds of soda in a fifty-barrel tank.

Mr. Crothers: How much does it cost you?

Mr. Jones: Five and five and one-half cents per pound at Indianapolis. As the lime deposit varies in different localities, you may find some other soda or phosphate that will do your work more effectually. The soap we

used to make from Menzies' formula, and have splendid success with it. We use twenty pounds of soda and potash to forty-two pounds of grease. Originally we were to use twenty pounds of soda or potash to forty pounds of grease, but we add now for the flannel soap about two pounds of carbonate of potash. If you prefer you can add the same quantity of a carbonate of soda. We have used in connection with that some ammonia ash for flannels, but we make that up in a small, separate kettle for flannels only. I understand some use it in the washing of cotton and linen.

Mr. J. N. Frazee: For bluing do you use analine blue?

Mr. Jones: Yes, sir.

Mr. Frazee: Use acid with it?

Mr. Jones: Oh, yes. That goes without saying. Anybody that uses analine blue will use acetic acid.

Mr. Dustin: Why do you go to the trouble of softening your water for the rinse, and then put in acid to harden the water to use your bluing?

Mr. Jones: I know that question comes up, and it has been a sort of puzzle. The acetic does not seem to give us any trouble.

Mr. J. M. Frazee: Do you use the acetic acid in the preparation of the water for bluing?

Mr. Jones: No, it is put with the bluing. We use about a pint of acetic acid to a gallon of prepared bluing.

Mr. W. C. Shaw: I think the association should be very grateful to Mr. Jones for his essay and his talk, but I do not agree with him except as to bluing. If I am not in error, caustic soda, or soda in any form, is a bleach of itself, and is one of the most injurious chemicals that are used in washing clothes. It will rot clothes quicker than a bleach. I try to save my customers' goods as much as I can. You cannot get clothes white without doing them more or less injury. I do not think it wrong to use bleach, but it should be used intelli-

gently. I think the use of hot water very good. You can use a smaller amount of chemicals with hot water than with warm water. It seems to me the only difference between Brother Jones' system and our system is that he bleaches with soda and we bleach with chloride of lime and chlorozone. I would like an expression from some of our supply men in regard to the action of caustic soda, as to whether it is more injurious than chloride of lime.

Mr. Dustin: I want to say if caustic soda will injure clothes I want to find it out. I remember some years ago putting some caustic soda in an old iron kettle, using it to make soap, and it dissolved and became like syrup and we covered it with boards. They used to pile the shirts on the kettle, and one day we missed a shirt [laughter] when we came to assort them for washing. I concluded it was gone, and would have to pay for it. When we came to make soap we found the shirt. It had been in the kettle of caustic soda syrup for two days and was actually stiff. I threw it in a little water and it was afterward put through the wash and came out without a particle of injury.

Mr. Jones: I think the fact that the soda was cold it did not have the effect that you expected. If the soda had been hot you would have seen a different result. In reply to Mr. Shaw, I would say we use as much caustic potash as we use caustic soda. You may mix it half and half and boil it together. We used for a good while what they called a neutral soap, but it was very expensive with our water.

Mr. W. C. Shaw: As I understand it from some reading I have done the object of using potash is to get a strictly vegetable alkali so as not to injure the clothes, which are made from a vegetable substance. Caustic soda is a salt, a mineral. I would like to know if the the potash that is offered for sale is made from a salt as

caustic soda is made. The old-fashioned way was to make potash from wood ashes. Our supply men are now able to give us a potash that is in crystal form the same as caustic soda. The query is, whether it is made from wood ashes or is made from a mineral.

On motion of Mr. Purchase the further discussion was postponed subject to the call by the president.

COLLECTION OF ACCOUNTS.

BY L. E. HASTINGS, INDIANAPOLIS, IND.

The question of how best to handle accounts is one of considerable importance to a large number engaged in the laundry business. It is an unfortunate fact that a majority of laundrymen do more or less credit business, and while they are constantly trying to do less, they are all the time doing more. How to best manage this branch of the business we would all like to know, but as far as I know no plan has as yet been devised that will give results that are entirely satisfactory.

To what extent shall we do a credit business? Shall we try to confine it to the customers whom we know to be good for any reasonable amount and who are always prompt to settle their bills on the first of the month? Shall we be a little more liberal and take a few chances with customers whom we know are not financially good, but whom we are afraid we will lose if we do not extend them an occasional accommodation? Or, shall we go still further than this and extend credit to all who may apply, under the impression that while we may occasionally lose a bill, the amount of trade gained will more than offset any loss in that direction. If we confine our credit to the first class, we are morally certain not to lose much from bad accounts, which, of course, is the argument for this position. On the other hand if we confine it to this class,

do we not run the risk of, and will we not lose considerable trade from customers who are not financially responsible, but who intend to and do pay their bill, unless misfortune overtakes them? If we take the middle ground, of course we may do a larger business and hold some trade which we would otherwise lose, but we run additional risk of losing some accounts and by our liberality, not only losing the accounts, but the customers as well, as many men will continue to be good customers as long as they pay promptly, but let them owe you a bill and not only the bill but their trade is lost. If we take the third position we may see our business very prosperous as far as amount of work done is concerned, but when we come to figure up the amount of losses on account of bad debts, and trade lost to us on account of our liberality, have we gained very much by being accommodating?

If a credit business is to be done at all, I believe it should be confined as close to the better class of people, financially, as possible. It is sometimes hard to discriminate in this regard, and in doing so we are liable to refuse those whom we might credit with safety, as we are also liable to accommodate those whom we had better not, but I believe it is, in the long run, better to refuse some good customers than be too liberal with those of doubtful responsibility.

As to keeping laundry accounts, there are many plans, all having more or less merit. To a great extent custom regulates this matter. In some places the habit of retaining laundry lists, which are returned to the office when bills are not paid, is general. In other places this plan would not be a success, as customers are not educated to it. I know of no better plan than to charge all delivery bundles on the driver's delivery book, giving customer's name, residence and amount, leaving a blank column for the insertion of amount collected when bill is paid at time of delivery. By this plan bundles not paid

for can be posted up to the customer's account if he is a regular charge customer. For transient accounts, the plan in use by one of the prominent New England laundrymen is as good as any I know: All transient accounts are charged on two separate cards, one of which has the corner clipped off to indicate that it is the driver's card to be used in collecting. The driver's cards are kept in a rack designed for that purpose and it is his business to take that card and collect the bill as soon as possible after the bill is paid. When the bill is collected the money is turned in and the duplicate card destroyed. The advantage of this plan is that the driver constantly has the cards bearing the unpaid bills before him and he has no excuse for not looking after them. No matter what plan we may follow in regard to extending credit and collecting bills, we find it unsatisfactory and constantly giving us trouble.

There is only one plan which meets the requirements of the case and that is so simple that very few have thought it worth while to investigate it, a majority preferring to follow the intricate and unsatisfactory ways of the past, when this plan if adopted would save much of the trouble incident to the laundry business and in the end would save us much money as well. This plan has, during the last few months, been adopted in a few cities where the laundrymen have thought it best to do business on business principles, and in every case with the grandest results. In these few cities the laundrymen do not have to spend their nights and Sundays making out bills, and the regular working hours of the week in trying to collect them, because they have thought best to investigate this method, and an investigation has quickly led to adoption. This plan, simple as it is, can be adopted by all of us in the trade, providing we are willing to assert a little independence and common sense in the matter and give our customers to understand that we

are not in the business for the purpose of spending our time collecting bills or in accepting invitations to call again to collect money, oftentimes long past due.

Would you like to know what this method of handling collections is? Would you like some proof of the fact that it is simple, effectual and to the point? My answer to the first is, do a strictly cash business, trusting neither friend nor foe, rich or poor, black or white, and the question of collections will have no terror for you. You say it cannot be done? Write to the laundrymen of East Saginaw, Mich., Lebanon, Ky., Houston, Tex., and Terre Haute, Ind., and see whether it can be done or not. I maintain there is not a town or city in the country where the laundrymen cannot do a strictly cash business if they will only get together and investigate the subject, and take a united stand on the question. The only trouble is in every place there are some men in our business who think nothing can be done in any way different from the methods pursued by their ancestors a century ago. What good reason or sense is there in this? The methods of doing business are rapidly changing. Margins are constantly growing smaller, in consequence of increased competition. That being the case it is necessary for us as laundrymen to stop all the leaks in our business and one of the greatest of these is incident to the credit system. There is no business that can so easily be done on a cash basis as ours. The customer who cannot pay for his laundry when delivered, if he is only educated to it, is very rare and cuts but a small figure in the aggregate. But all have the credit custom to contend with. We would all be glad to get rid of it. Shall we do it? It lies with ourselves and if anything is done we must do it. Certainly our customers will not. The movement of this kind in any place must be a united movement. I cannot in Indianapolis do a cash business unless my friends in the business will unite with me in

the movement. What is true with us is also true in every other place. Let us, my friends, consider the question, a very important one, too, from a common sense business point of view and when we shall go to our respective homes confer with our competitors and see if they cannot be inclined to unite with us on the point of common interest, and thus add both to the pleasure and profit of our business.

ELECTRICITY IN THE LAUNDRY.

W. M. LAWRENCE, MINNEAPOLIS, MINN.

When our president, through the secretary, invited me to prepare an essay for this meeting, I replied saying that I would give my experience with electricity in the laundry. I propose to dispense with the written form and give you simply a talk this afternoon on the subject.

When my wife feels like criticising me and giving me a little good advice in the way of sarcasm, she says: "Oh, we all have our faults." Of course she thinks if she includes herself that will take off the sharp edge and I will overlook it. But it is just as keen as if she would use the pronoun you instead of the pronoun we. I am obliged to acknowledge that I have my faults, and one of my faults is a disposition not to remain stationary in any one place. I am always reaching out for something new, for something better, and I am constantly working in little novelties into my place. My children are in the habit of saying: "Well, papa, have you got anything new in the laundry? If you have we will go down and see it." I hope I am not like the man that was at work for the farmer and always doing something to surprise him. One morning the farmer went out to the barn and found his man hanging to a beam in the shed, and he said, "What on airth will that fellow do next?" [Laughter.] I don't know that I shall hang myself, but I may do something next.

It is now nearly two years ago that a young man by the name of Carpenter one day came into my place and said, "Mr. Lawrence, would you not like to go over to the restaurant and see them cooking griddle cakes and meat and baking bread by electricity?" I said that I would, and went over and saw it. I asked him how it was done. He explained that a current of electricity was carried under the pan, which generated the heat. I said to him, "Can't that be used in the laundry for heating irons, machines, etc.?" He says, "Yes." I said, "Will you make some irons for me to use?" He replied that he would; that he would put in a Westinghouse current, and make me some irons. I said, "All right, go ahead." In a short time after that he brought in a flat iron or two, and made the connection with the current. At first the irons were not quite hot enough, but he made the irons with a little more resistance in them and consequently carried in a stronger current of electricity, and it was an improvement. Then I said, "Can't you get me up a machine so that I can iron collars and cuffs by electricity?" He replied that he could. I had been using a No. 3 band ironer for ironing cape collars, having at that time a great many cape collars. He fitted up that little machine, and I commenced to use it for ironing collars. The first apparatus put into that machine was used almost entirely for a year, and it never gave out at all. It is really the only perfect machine he fitted up for me. It worked to a charm. He kept bringing in other irons until we were using electricity in all the polishing and flat irons, and in this little cape collar machine. Then I wanted to go a step further. I said to Mr. Carpenter, "Can't you go ahead and fix up the rest of these machines so I can use them?" He said that he could. He then proposed, if I was satisfied the thing would be a success, that if I would put in my own dynamo and furnish my own electricity they would fit up my whole

plant without any cost. I told him I would consider it. After considering it a little while I made a contract with the Edison Company for a No. 8 dynamo, with a capacity of 360 lights, large enough to furnish electricity for all my plant, besides lighting up the whole building, and the dynamo was put in, and in a short time my whole plant was heated and lighted by electricity. Some of the irons burnt out, but as the company was only a short distance from my place, as anything happened we would call in one of their employes and he would fix it up, put in another little wire, solder it up, and it would go all right. Along about last January the company began to have some trouble among its members, and soon after that it disbanded. After they disbanded my machines were constantly getting out of order, but my foreman got a few little tools, a soldering iron and other materials, and we patched them up ourselves. We found there was not much expense to it, but a good deal of trouble, and finally decided to drop it. So I used my dynamo during the winter for lighting my building, but in the spring I took the belt off, and discontinued the use of electricity, and have not used electricity at all during the past summer.

In the meantime they have reorganized the company, with more capital behind it, and Mr. Carpenter has been placed at the head of it. They have fitted up an elegant shop in St. Paul, and they have gone to work now under an improved patent. Mr. Carpenter has secured a patent for an improvement on the old method. I want to say here that I am not now, and never have been, financially in any way connected with this company, and have no interest in it further than to test the use of electricity in the laundry.

It might be interesting to describe to you what Mr. Carpenter's improvement is. In the old method the wire was laid on asbestos paper, and was bent so as to get as much of the wire on the paper as possible, so as to get a

current sufficient for heating the irons. The heat was conducted through the asbestos paper on to the plate or lower section of the flat iron. The improvement which Mr. Carpenter has secured is the enameling of the bent wire. The wire and the enamel are placed in a red hot furnace, and are fused with an intense heat, so that the wire and the enamel really form a part of the iron itself. He claims that it is more durable, and less expensive to make. His recent patent is that enameling process.

A few days before I came to this convention they brought in a few of these improved flat irons and polishing irons, and some of them worked very successfully. One or two of them burned out. The wire of the circuit for some reason or other would touch a little piece of iron somewhere else, and the electricity would flip across and burn out the wire, break the current and you get no electricity. That is what is meant by burning out. But if they are properly made that can be entirely avoided. I think the new process is going to be a success. Mr. Carpenter claims that he is going to introduce into all of my rolls, ironing machines, body irons, collar and cuff ironers, and all the machines I have been using with gas. He proposes to introduce electricity to take the place of gas. This new patent has not been tested as yet sufficiently to enable me to say positively that it will be a success, as I have not used it long enough, but I am using it now, and shall put the belt on my dynamo in a short time and then give it a thorough test.

Mr. Ellis: What do you say as to the cost of electricity?

Mr. Lawrence: I am glad you spoke of that. That is the hardest part to tell—the comparative cost. They put in a few irons at first, increase those from time to time, using their own current. After I started my own dynamo I had only a part of my plant running with electricity, and it was impossible to tell what my fuel bill for the

electrical part of my plant really was. If I could have operated the complete plant for a few days by electricity alone I could have estimated it. I have no doubt, estimating from my fuel bills, with the saving in my gas bill, that electricity is considerably cheaper than gas.

A Member: What is the price of gas?

Mr. Lawrence: One hundred and eighty dollars per one one hundred thousand feet net. I think the new process will be cheaper than the old because the iron receives the benefit of the current immediately when it is turned on, whereas in the old process we were obliged to heat a large amount of asbestos paper before the iron began to receive the benefit of the heat, and that waste heat by this new process is all saved. I have no doubt but what it will be cheaper, but even if not cheaper it will be better. You know that with gas machines we have to use matches, and sometimes a half dozen matches in lighting one machine. It takes time, there is a liability of fire from throwing the match on the floor, and there is a great deal of odor that comes from those gas machines as we noticed while visiting Mr. Dolph's laundry this afternoon. This odor is absolutely offensive, is unhealthy, and have to provide ventilation to get it out of the room. In heating with gas you heat parts of machines that you do not use for ironing purposes, and there is a large waste of heat from radiation. By the use of electricity you avoid the use of the match in lighting, you avoid the disagreeable odor, and you avoid heating anything except the part you use, and your operator stands absolutely in the same place. Even with your little gas stove sitting by the wall the operator has to take a step or two to get the iron, which takes time. With electricity the operator does not have to move out of his tracks. The connection is made by a long cord with the heel of the iron, the cord hanging upon a flexible standard which takes up the slack. The current is going all the time

and gives you a uniform heat. Should it get too hot the operator turns a thumbscrew and turns of the current. there is a switch on the end board, a cut-out on the wall, and the heat can be regulated exactly; so that if it is no cheaper it is better for those reasons.

Mr. Jones: Have you a meter?

Mr. Lawrence: Yes, sir. I could tell how much electricity I was using, but I could not tell how much was used for heating separate from the lighting.

A Member: What is the expense of a dynamo?

Mr. Lawrence: I put in an expensive plant, because I wanted one big enough to heat the machinery and light my building. I put in a No. 8, 360 light, and the whole plant cost me about $2,000. That included putting the wire in the building, lighting station, pulleys and everything. We have to have a clutch pulley to cut off the dynamo. They promised me to have my whole plant refitted up on the new plan in a very few months. I will keep you informed from time to time as to the success of my experiment. [Applause.]

Mr. Consor: Can the irons be made so they will maintain a uniform heat?

Mr. Lawrence: They can make irons that will maintain a uniform degree of heat when used upon a certain class of goods; for instance, they make an iron that will carry a certain number amperes, three, four or five, an iron that will iron goods like handkerchiefs, towels or napkins, or anything of that kind. Then for a thicker, heavier class of goods they will carry a stronger current into the iron to make it a little hotter, for such goods as flannels, overalls, where the goods are damp and heavy, and require more heat to dry out. They make still another one for polishing purposes, and can carry any degree of heat you wish in your irons. The current is so small that there is practically no danger of injury from the use of the irons. One of our girls got her

fingers burnt once or twice, but the injury was very slight.

Mr. Jones: How much power were you using on the factory plant?

Mr. Lawrence: When I was running the dynamo to pretty near its capacity for my lighting and my factory plant I was using 25 to 30 horse power on my engine. I have about 100 16 candle power in my building and a few 32. For my plant I had about three dozen flat-irons, a polishing iron, together with a cape collar ironer, two shirt machines, a neck-band machine, and I had a No. 8 collar and cuff machine, and four body irons running at the same time in connection with 100 lights, and they took 25 to 30 horse power on the engine. Of course it increased my fuel bill on the engine but almost entirely did away with the gas bill, which is $100 a month on the average the year around. The engine is a 10x30 Corliss engine. We call it about a 50 horse power engine. I think at the time I was using the greatest amount of electricity I was using about 55 horse power on what we called a 50 horse power engine.

The President: You estimate that the rest of your plant requires about 20 horse power?

Mr. Lawrence: From 20 to 25.

Mr. Ellis: What do you estimate the cost for coal?

Mr. Lawrence: I have made no figures on that, because I am using shavings that we get from the planing mill. It is the cheapest and best fuel we can get. We are all using it in Minneapolis for almost everything.

Mr. Dolph: What do you say as to whether it would be advisable or practicable to use electricity similar to the manner in which we use gas, that is by heating a plate that the irons are set on?

Mr. Lawrence: I did not experiment on that line at all. It is possible that it might be done, but I would prefer to make the thing complete at once by introducing

the electricity into the iron where you want it, thus saving your operator running back and forth to get the iron. You could have two irons on the same table, the one a little hotter than the other, and the operator could use the one or the other interchangeably. If one got too hot, it is only necessary for the operator to turn the switch, which he can do without moving out of his tracks, and then he can turn the heat on again when he wants it. There is no time lost in running across the room to get your iron or anything of that kind.

Essays Read at the Convention Held in New York City, October 1892, and Discussions on Same.

LOCAL ASSOCIATIONS.

BY TOM SYERS, LOUISVILLE, KY.

I will try and give you the advantages of local associations, also the part taken by branch offices, or agents, in helping me to the detriment of others in the business. While I am a Kentuckian, I do not lay any claims to oratory that rightfully belongs to Breckenridge, or our equally famous Jim McKenzie, but will endeavor to place the matter before you in a straightforward and common sense way.

In the beginning I will ask you to listen to a little retrospection on my part. About ten years ago I engaged in the business in a hand laundry in Indianapolis, Ind., and was doing a highly satisfactory business in a small way, all of which we technically designate as "drop work." But being young I was naturally ambitious to own a steam plant, and as soon as I had saved up enough money to do so intended to put one in, for in those days you had to have the cash to plank down, or about 90 per cent of it, when you got anything from the laundry machinery

men. The machinery men did not in those pioneer days put in plants on the installment plan, as they do now. While I, in my mind, was building my steam plant, and working early and late to made it a reality, a man who conceived the idea that hundreds of others have since done, viz., that all that was necessary to do was to put in some machinery and start it going, and sit down in the office and gather in the dollars, imagining there was millions in the business, and having the cash to put up a small, but first-class, steam plant, embarked in the business a few doors above, and on the same side of the street. The result was that my visions of a steam plant had vanished, as I very naturally supposed that the new steam plant would get all the business, and I would have to look for another location. However, I made up my mind to stick to the old place awhile, and the end of the first week found me about even so far as profits were concerned. The new plant was working until 10 o'clock every night, and the first week had to finish up its work on Sunday morning. By keeping a weather eye on my competitor I soon discovered that he knew virtually nothing about the business. The result was that the next week I got back all my old customers and some new ones that had been attracted to the square by the liberal advertising of my competitor, and I did a better business that week than I had ever done before. My competitor kept turning out poor work and my business kept on the increase. This state of affairs continued for about six weeks at which time the new steam plant was put up for sale and I bought it. When I secured possession of it I was, in my estimation, the biggest man in town, the governor not excepted. But when I got into it to do the work I was not long in discovering that I knew virtually nothing about handling a laundry business with a steam plant, and would necessarily have to learn it. So I proceeded like the rest of you have had to do, to buying

experience; and some of it I paid for, and the balance was secured at the expense of my customers; but I managed by the process of making excuses, some of which were purely imaginary, to hold the bulk of my trade, while I was learning how to run a steam laundry.

In about eight or ten weeks a man dropped in who wanted to buy a half interest with me, offering as an inducement, aside from a good round price in cash, to bring five thousand dollars worth of business per year with his name, which was J. A. Reaume, an agent for Major Taylor's laundry. I talked the matter over with him, and he gave as his reason for wanting to go into the business that Major Taylor would not give him 25 per cent, instead of 15, and he had made up his mind to buy in with some one, or start a new plant of his own. I told him that I could not do that amount of additional work with the capacity I had. He said if that was my only objection he would build me the finest plant in the city, which removed the only obstacle I had raised, and before noon the next day the contract was let for the new building.

Now, if Mr. Taylor had rented an office on the same square, where this principal office was located, he could have got a large part of that trade, or if there had been a local association that was looking out for a few of the advantages, aside from uniform prices, I could not have taken his best agent. It was in reality Major Taylor's trade, as it had been largely built up by his liberal advertising of it as his principal city office for over three years, and by so doing, instead of maintaining an independent office of his own he put a club in another man's hand to crack his own head.

My partner and I prospered beyond our most sanguine expectations, as we soon had a business of five or six hundred dollars per week. So rapidly did our business in-

crease that we were soon compelled to add another story to our building.

I will tell you how we came to establish another laundry in Louisville. There was a gents' furnisher who was acting as agent for Kiefer & Reed of Dayton, Ohio, and was shipping about $250 worth of work per week to that place. Before this agency started the four laundries in Louisville were getting three cents for collars and cuffs and twelve and a half to fifteen cents for shirts. The agent cut the price of collars and cuffs to twenty-four cents and shirts to ten cents, and as K. & R. did better work than the home laundries he did a big business.

This agent had a clerk who was popular and ambitious, and on the plea that he could get enough laundry trade to make all expenses he was anxious to come with us and he got ready to do business, but before doing so wrote to K. & R. for rates to agents. K. & R. would not do business with them, as they knew the old agent could hold all of his trade, as they were then doing a little better work than any one else in reach of Louisville. The new firm had to have a laundry to do the work, and a traveling man told them about the New York of Indianapolis, Ind. They wrote to us and I went to Louisville and I saw, or I thought I saw, a good thing, and, as a result, we secured a good agent, for they were soon shipping to us from five to sixteen bushel baskets of work per week, for which they paid us eight cents for shirts and eighteen cents per dozen for cuffs and collars. In a few months another gents' furnisher in the east end of the city wrote for prices, and in a short time he was sending us $100 worth of work per week, and it was not long before we had an agent in the west end, another in the north end, who were making large shipments, for all of which we were getting eight cents for shirts and eighteen cents for collars and cuffs, and paying express charges one way.

We were then doing for Louisville, Ky., through agents, over $15,000 worth of work per year.

Being out of debt I suggested to my partner that we go to Louisville and start another plant, as I realized, if we did not do so, some one else would. He finally concluded to look over the ground with me, and after doing so he looked upon it in the same light that I did. We put up a building and plant at a cost of about $10,000, which has since been increased in value and capacity to over $30,000. I did not disturb the agents who were shipping to Indianapolis, but let them continue to send there until such time as we deemed best to commence doing that work at Louisville, or a part of it, and I hustled for the local trade. In about two years both plants were out of debt and making about the same amount of money. So Mr. Reaume and I agreed to dissolve partnership, he taking the Indianapolis plant and I the Louisville plant. We still retained the original agent in Louisville. I have gone along and by prompt and good work have cut that agent down from about $200 per week when we started to about $50 per week. I own and maintain all of my own branch offices that amount to anything, and shall always do so as long as I am in the business. From my experience and observation I realize the importance of local associations, and I was very anxious to have one in Louisville. About two years ago I started out to make a final attempt to get the trade together for the purpose of organizing, but after long and patient effort gave it up. Then my manager, who believes in perseverance, took up the good work where I had left off and stuck to it until he got all of the laundrymen together except two. Four of them are getting eighteen cents for collars and cuffs, and ten cents for shirts, and all kinds of prices on the balance of their work. After two or three meetings the case looked very hopeless for a local association, and all considered the attempt futile. Mr. League took another

tack on the question. As he found he could not get them together on prices, he talked the point of discounts to agents, and agents changing, the question of controlling help and of helping one another, in fact, everything that could be thought of aside from prices, from business to philanthropy, leaving the question of prices to work itself out by force of circumstances. We all give 20 per cent to agents that we had at the time we organized, but new agents get only ten per cent; and if an agent wants to change from one laundry to another he cannot get any per cent at all, which virtually prohibits their changing, at least so far as the ten laundries in the association are concerned. There are three laundries not in the association, but they do not bother us. One of them has changed hands three times, and one of the other two is owned by a stock company. One of the stockholders who claimed to own $500 worth of stock offered to sell it to me for $200, and said he would consider it a favor if I would take it as he wished to pull out of the business entirely. The other laundry is owned by E. H. Jennings of Chicago. It does the Pullman work, and cuts a very small figure in the city trade. It is an eighteen cent laundry, and some of the eighteen cent laundrymen in our association do not want to put up prices until Mr. Jennings can see the wisdom of putting them up with the rest of us. I think in time we will have uniform prices; but if we never reach that point the association, as it stands, is of great benefit, for we protect and help each other in many other ways. In reality I believe our inability to organize with a uniform scale of prices, constituting the leading feature of our organization, has been conducive of better results than if we had been able to accomplish that important feature in the beginning, as that would have overshadowed all other features that usually receive too small consideration. Our members would not have become so thoroughly acquainted with each other as they are, and they

never would have as freely discussed the wants and merits of an organization that must be considered and sacredly lived up to aside from prices, in order to maintain a local association. These seemingly minor things have been the means of establishing a bond of real business friendship among the members that I am sure would not have existed had we been able to agree in the beginning upon a uniform scale of prices. The disagreement upon that leading feature was in reality the development of the true idea of what associations ought to be based upon and of cementing it with a fraternal feeling which I do not believe exists in any other association in the United States. I am sincere when I say I am confident that there is not a member in our association but would rather lose one hundred dollars than to dishonorably take from a fellow member one dollar's worth of trade. It is the lack of this truly honorable and fraternal business sentiment that erects along the shore of the business ocean of life the breakers upon which so many local associations have been wrecked. Some one in this convention, or some far-off city or hamlet, may wonder what the stepping-stones were that enabled the Falls City Laundrymen's Association to surmount this seemingly insurmountable barrier and reach the highly honorable business elevation which it has. The basis upon which our association rests is that substantial foundation upon which all business, social and moral organizations must and do rest —confidence. Confidence in each and every promise or assertion each and every member makes; confidence in a member when he says: "I am in favor of anything that the majority of you favor." In that one little word you have the keystone to the arch that will make it so substantial that no matter how lowering and threatening the cloud of discontent or avarice may be it will hold you together as solid as adamant. To illustrate the importance of that feature: At one of our recent meetings

three of our members only could remain through the entire evening. The question being discussed was a very important one, and as the three brother members took their departure, their *au revoir* was, "Boys, we are with you in any action you may take in the matter." Confidence inspired the sentiment that their associates would in no wise do anything that would be detrimental in the slightest degree to their business interests or welfare.

Let us now turn back one year and a half over the pages of the history of our local association, and if there is any other city in the universe which can present, to all appearances, a more hopeless outlook for organizing a local association than Louisville did our members would be pleased to have the photographs of the individual members of the craft therein dwelling—I was going to say—in a group; but to secure such a photograph would be an impossibility, as an effort in that direction would not only break the camera, but their loving glances at each other would burst the entire photograph gallery. When one of the craft met another on the street or passed his place of business, it was truly wonderful how the attractions caught his eye in some other direction. They all loved each other like Bennie Harrison and Jimmie Blaine, or like Grover Cleveland and Davey Hill does, which, of course, was a very brilliant outlook for forming a local association. There were, however, a few who believed that perseverance and faith could eventually bring about the desired result. Letters seeking information as to the best manner to proceed were written to various cities where associations existed, and much valuable information obtained, for which we were grateful, and especially do I take this opportunity, in the name and in behalf of our association to thank the then president of the Laundrymen's National Association, Mr. C. A. Royce, for the letter he wrote us and the kindly words of wisdom it contained. Realizing as I do their true value I

wish to quote those words to which some of us often refer: "Do not try to accomplish too much in the beginning. Go slow, and above all things, have any differences that may arise adjusted through a committee, and never allow anything in the nature of a grievance to come up in a regular meeting for discussion." Experience has taught us that those are words of truly golden wisdom. Call after call was issued for meetings and personal solicitations were indulged in. Some would come and some would not. Some would promise to come and would not do so. Others would not promise to come and nothing tangible was accomplished. But in the meantime, while to all appearances there was no good accomplished, such was not the case, for those engaged in the business—I mean those who had responded to the calls for preliminary meetings, were becoming better acquainted with each other, and beginning to find out that their competitors were a pretty good sort of fellows after all had been said and done. In fact, social intercourse became quite a pleasant feature of those meetings, and it is indeed of all other meetings which we have had. The merits of a local association were discussed pro and con, and whenever a member advocated the forming of an organization and expatiated upon his reasons for so doing all the others would—figuratively speaking—turn his argument upside down and inside out to see if it contained any trap door through which he was endeavoring to drop them, which would enable him to sit on top of the heap and reap all the benefits. But even in these meetings when mistrust predominated, the little seeds of confidence were being sown and by and by began to bear fruit, and it was decided to organize upon everthing but price for our mutual benefit and protection, and thereby benefit ourselves individually, and, as events transpired, we would by resolution enact a code of rules to meet the emergencies and thereby circumvent the evils, we, as in-

dividuals have to contend with, and on this basis we organized. By so doing we now realize that we commenced at the root of the evil to eradicate it. Meetings were held every two weeks, and as each member encountered something in a business way that he thought would be of interest or benefit to him he made a note of it and at the next meeting brought it up for discussion. In fact, every member came to the meeting loaded with ideas and suggestions to make and advice to give. After all had unloaded themselves the meeting would adjourn and the whole gang would go out and load up in true Kentucky style, which really made a harmonious state of affairs, except in the slight difference in the quality of the load they had at the time they left and when they got back home.

Out of chaos came order; then began the sifting and pruning of the various ideas that had been developed, and now all pronounce the result good. We have rules prohibiting the employment of each others' help and soliciting each others' trade, and numerous other things, one of which is too important not to mention. "In case of an accident, or from any cause whatever, a member is unable to do his work, he makes his distress known, and his work is pro-rated among the other members who do it for him at—please note the price, Mr. President and gentlemen—50 per cent off his list price."

To you who have no local associations, think what a benefit that one feature is. The time may never come when you will need such assistance, but sickness or misfortune may come knocking at your door to-morrow, and if it does do you realize what a haven of security your temporal welfare has in that one feature of our local association? We have a grievance committee to whom all matters are referred for adjustment. More properly speaking, the original function of the grievance committee was to adjust all differences between members. But we have

now reached the point where its actual work is nominal, as now if anything really or imaginary occurs, the two members directly interested meet like men and talk the matter over, and if there has been anything irregular, whoever was in the wrong rights it without any hesitancy.

If those who are engaged in the business in any city will each and everyone, or three-fourths of them, pledge themselves to meet twice a month at a regularly appointed place for four months, at 8 o'clock P.M., of either Monday or Friday, and spend two hours together in social intercourse and become thoroughly acquainted with each other, and discuss the evils they each and every one have to contend with, and what could be done to eradicate or control them, they will, within the four months, have an organization that they can and will be proud of. Do not try to do too much. Just organize and then be governed by circumstances, as to your rules governing your help, in the employment of each other's help, the amount of discount you will give your agents, under what conditions an agent can change from one laundry to another, and hundreds of other things that will be beneficial to each and every one of you. Did one of you ever pause to think what the real situation of your business is? The business is not overdone. There is not a laundryman here who could, if all of his competitors would quit the business with the ending of this week, do all the laundry work of his own city. Then what is a natural and common-sense view to take of the situation? Simply meet together and talk the matter over just as though you had formed a trust and all had become partners in the business in your city, and you will find you have removed a large per cent of the annoying obstacles from your business pathway. There will still be plenty of annoyances left, so that you will not be in any danger of going out to borrow some of your neighbor's troubles in order to add a little spice to your life.

During the past summer we gave a moonlight excursion to our employes, and next year we will take a day off and go up the river fifty or a hundred miles and have another royal time.

I have endeavored to the best of my ability to show you how the lack of a local organization conducted upon proper principles brought into existence two laundries that I know of, and of the importance of an association, aside from procuring a uniform scale of prices. If I have entertained, instructed or encouraged any of you, my disjointed efforts have not been in vain. If I have failed in all three directions I do not consider my efforts futile, for if I have bored you it has been a good work, as it will make the efforts of those who have the ability to entertain you the more apparent, as the contrast will be such that you will not fail to appreciate a good thing when it is presented for your entertainment and instruction.

In conclusion, I abjure you to organize local associations. If you never accomplish anything further than to become acquainted with your brother laundrymen you have done a good thing, for instead of magnifying their faults you will learn their virtues and have a better opinion of them as well as of yourself for so doing.

PROBLEMS.

BY C. A. ROYCE, SPRINGFIELD, MASS.

In whatever line of industry one may decide to engage, his way is at once beset with difficulties of a more or less problematical nature. These problems are often fanciful in their nature, yielding readily to treatment by the practical and well-equipped mind, but on the other hand there are problems so real and so rugged as to seem to defy solution.

The manufacturer, he of the fat-frying capacity, will in a patronizing way inform you that there may be some

slight worriments in your line of trade, the only trade subject to gigantic problems, and you will find the merchant taking much the same ground. These facts are introduced here as a comfort to the laundryman who thinks that all paths but his own are flower strewn and sweet scented.

However, the problems of others do not concern us, be they small or great; our own are real and demand our earnest attention.

The first question to engage our attention is, what are these problems? We must not try to answer the question in full; were we to attempt to do so we would need to set back the hands of the clock and wire home to our foreman not to look for our return before Christmas, and if our landlord should be doubtful as to our ability to pay a large hotel bill, send for more cash or borrow of the New York men, who no doubt would gladly supply any lack in this direction.

Again, however much I might enjoy a cool plunge into ancient history and a gradual swim down to the present time, I must be merciful; furthermore, I have no desire to encroach upon the prerogative of certain friends and brethren of mine at whom this gentle sarcasm is directed.

I propose, before allowing you to get away, to put forth a few remarks of a more or less lucid nature, upon the bleach problem, but before doing so and with the intention of producing in you a docile and self-sacrificing spirit, I will open a bag of chestnuts.

We are greatly indebted to the laundry papers and their correspondents for the grey streak problem. I remember this as a bone of contention when I was engaged in the conduct of an infant industry. At that time I ventured the remark that grey dirt would be nearer the truth, but a brother from Pennsylvania gave me a bad attack of epiliptic fits; in consequence I am not like the

New York doctor who advertises "I cure fits," hence you will pardon me if I pass this problem on to some one more courageous and skillful. I will only say before passing on, if the brethren who have published their methods so freely escaped grey streaks, we may safely assume that the day of miracles has not yet passed away.

Black specks is a spectre which I supposed was relegated some years ago to that bourne from whence no traveler returns, but like Banquo's ghost, it will not be relegated. Will not some brother who has had experience with ghosts tackle this monster and save me the trouble?

Heretofore we have talked of trivial matters, but now we reach a problem that is a problem. I allude to the "foul, rat-eating, morally corrupt, physically rotten, almond-eyed, sanctimonious fraud, the heathen Chinee." Please note that my descriptive remarks are in quotation marks. If I have left out anything, I humbly beg your pardon.

We are all familiar with the proverb, "Go to the ant, thou sluggard; consider his ways and be wise." I some times paraphrase this proverb like this: Go to the Chinese, thou beat laundryman, consider the way in which he gets there just the same, and learn to mind your own business and be honest." Seriously, my brethren, I think we may turn over our stock in trade in the Chinese matter to Mr. Dannmeyer.

The laundryman gains his livelihood by the handling of the property of others. While handling this property if any loss or damage occurs to it, the owner holds him responsible. The truth of this proposition will be fully admitted by all.

While we are very sure that the owners of the property we are handling are often times unreasonable, most of us will be willing to admit that wear and tear in the laundry

is more severe than we could wish. This very fact has led many of us into the realm of experiment in the endeavor to discover methods which shall result in reducing wear and tear to a minimum. We have none of that spirit which actuates the man who throws our baggage around in such a light and airy manner, neither are we in league with the manufacturers of shirts, collars and cuffs. I should hardly care to maintain that in no case have these experiments resulted in the object sought after, yet I am inclined to the opinion that, taken as a whole, laundries are more severe upon wearing apparel now than formerly. Doubtless there are notable exceptions to this statement, yet it may safely be taken as a general rule. As to the reason of this condition of things I have my own idea, but it is not in line with the subject under discussion; therefore, instead of giving it, I will ask "What do laundrymen, generally, consider the cause of excessive wear and tear?" I answer, "The use of bleach."

If my premises thus far are correct, we are confronted with two questions: 1st. Is the use of bleach necessary? 2nd. Is its use harmful?

Before attempting an answer to either of these questions, a few remarks upon the general line of bleach is necessary.

The universal bleach for linen and cotton fabrics is chlorine. Other bleaching agents there are, but their use is limited. Chlorine of commerce comes to us in the form of chloride of lime, or bleaching powder. This is simply lime saturated with chlorine gas. To make the chlorine available we must extract this gas from the lime and get it into some form convenient for use. The most common method is simply to mix the lime with water and let it settle. In the operation the water takes up a small percentage of the chlorine. This chlorinated water becomes our bleaching solution. It has been found that an alkali solution will take up a larger percentage of the

chlorine and also precipitate the lime at the same time. This fact accounts for the various soft bleaches, so called, now so common. We do not propose at this time to discuss the relative merits of these various chlorinated mixtures; our point is simply, that whatever our mixture, the benefit we derive, if there be any, is from the chlorine. Strike out this agent from any of the mixtures and it ceases to be of value as a bleacher.

We now arrive at our first question: Is bleach necessary? Our answer is as follows:

It is undoubtedly possible to do an excellent grade of laundry work without the use of bleach. Some men have been notably successful in this direction, yet I think we must say that for high grade laundry work, such as the trade is coming more and more to demand, some bleaching is necessary.

We are now groping in the dark in this matter; modern chemistry makes it plain to us why bleach is necessary. I take the liberty of quoting a certain chemist who is widely known and respected in the laundry trade. He says: "White cotton garments become by usual wear more or less impregnated with dirt, fatty matters, stains of all sorts, etc., which, under the action of the air, form a yellow colored resinous substance, the coloring principle of which is not attacked by alkalies. An alkaline liquid has for its object the abstraction of the dirt and oily matters present in the fibre; likewise the removal of the starch or sizing. In other words, it frees the fibre from loose dirt, oleaginous substances, sizing, and nothing else. Of course, in some instances, the detergent operation with soap and alkali may suffice to approximately restore that original degree of whiteness, but sooner or later these same goods will acquire that characteristic yellow tinge constituted by the coloring matters of the resinous substance above mentioned. The action of a bleaching agent *only* can tem-

porarily de-colorize it, and as it is then soluble in acid it is carried off by the acidulated rinse."

I have taken the trouble to refer this statement to other chemists, and all admit that the facts are as stated; hence we must conclude that our question is answered in the affirmative.

Now, as to our second question, Is bleach harmful? I am able to find chemists who answer, "No," but this "No" is always prefixed by an "If" of more or less importance. Although I am no chemist, and therefore unable to dispute the claims of these parties in a very convincing manner, I do not believe that bleach can be used without a harmful effect. This effect may be, and under proper conditions is, very slight, but it cannot be entirely avoided. Among the several authorities I have consulted I find substantial agreement in the following statements:

"Chlorine has a corrosive effect upon the fibre treated, and unless quickly and thoroughly removed a weakening of the fabric follows." "The process of bleaching results in loss of weight in the goods treated. This loss of weight usually means a certain loss of strength also."

These facts, I think, serve to answer our second question in the affirmative.

In conclusion, the laundryman is in no sense a bleacher; he is simply compelled to use a bleaching agent to do that part of his cleansing process which soap and water will not do. He works upon this principle—good judgment and principles of economy both compel the use of chlorine and demand that no more shall be used than absolutely necessary.

As a result, we find that in the average laundry the use of chlorine is reduced to such a small point that while it undoubtedly has a weakening effect upon the clothing treated, yet this effect is so slight as to be of

little consequence. In my opinion chlorine is not guilty of the many crimes laid at its door.

With these few remarks I leave the bleach problem with you.

Mr. Armstrong, of Ohio: Mr. President, the essays to which we have listened have been entertaining and instructive. The essay of Mr. Royce is certainly practical. I agree with him that there can be but little good work done without bleach. Last year Mr. F. L. Jones, of Fort Wayne, read an essay to us, wherein he stated that he did all his work without a particle of bleach. I went home and tried it a time or two and threw up the sponge. I use chloride of lime, and shall continue to do so until I find something better. I have used chlorine, chlorinated fluid, Badger's bleach—everything that came along—and I invariably return to chloride of lime. My skull is too thick to see any special advantage in any of the fluids. They will do the work just as good as chloride of lime, but I find that they cost three or four times as much. Of the chloride of lime all we want is simply enough to do the work and no more. If any gentleman can enlighten me how we can bleach without the chloride of lime and save any money or any time, I would be glad to hear him do so.

Mr. Barnes of Pittsburg: Mr. President, there are plenty of good washers in the country, but the trouble with many of them is that they forget to rinse. The whole secret of any bleaching agent is in properly rinsing after you are done with it.

Mr. Armstrong: Mr. President, I would say after we put in the chloride of lime we use a hot rinse first and then follow with two cold rinses, a sour and then blue. We find that cleans out the chloride of lime pretty thoroughly.

Mr. A. T. Hagen of Rochester, N. Y.: Mr. President, in regard to the wear and tear in our laundries I think the

gentleman who read the essay is largely right; but I think more blame is laid to the bleach than should be perhaps. The trouble often I think is that the machine is overloaded. I think you will find that in laundries where they customarily wash with small loads that the clothes last longer than where they wash in heavy loads. The overloading of the machine has a tendency to make the clothes thin. If any of you wish to make the experiment you will find that if you divide a heavy load into two loads you will find less lint in the water after washing than if you wash the same quantity in one load.

Mr. Barnes: Mr. Hagan is a good authority on bleaching, for he has been in the business a great many years. I think a good deal of the trouble comes from the fact that in a great many of the towns and cities in the United States water is paid for by the meter, and the saving of water is too much of an object, and not enough of it is used. The overloading of the machine cuts some figure in the matter, but the great trouble is you do not use enough water for rinsing after using the bleach.

Mr. Doremus: I think the gentleman is entirely off the question in speaking of rinsing. I cannot see what rinsing has to do with wear and tear. Mr. Hagan was speaking of overloading the machine as the cause of wear and tear. Rinsing cuts no figure in the matter at all, that is for the purpose of getting the clothes clean—rinsing the soap and the lime out and any other foreign matters that may be there.

Mr. Shaw of Erie: One point in regard to bleaching is that your employes who do the washing will fill the washer up to a certain guage, using the same amout of bleaching at the same guage of water, and then if they put a large quantity of clothes in the washer there is less water to dilute the bleach, so that the bleach is relatively stronger with a large load than it is with a small load.

Mr. Mohn of Pittsburg: I think brother Shaw is about right, and brother Hagen is right in regard to bleach and having a large load in the washer. By practical experience I find that when the lime gets thoroughly into the goods with a very large load it is almost impossible to take it out in the way we take to do it. Where we take small loads we get substantially all the bleach out of the goods. In my estimation the proper way of washing is to use small loads.

Mr. Shaw of Erie: I agree with Brother Mohn, but I wish to state that it is almost impossible to always have the load the same, and the men who do the washing should understand that if they use a large load they should not use as much bleaching.

Mr. Barnes: That brings us back where we started. If you have a small load you put in the same bleach as for a large one, and use exactly the same water. The trouble is in the rinsing. There is any amount of good washing, but not enough rinsing.

Mr. Pierce of Hartford, Conn.: Mr. President, I would like to ask a question. Why it is that cold rinses are used after a hot rinse? Why are two cold rinses used after a hot rinse to remove the bleaching? Why not use a hot rinse to get all the bleach out? Do we not close up the pores of the clothes in using cold rinses? Why not continue the warm rinses up to the bluing?

The President: I presume there are a number here who could explain why they use cold rinses before the blue and before the sour.

Mr. Doremus: The most practical way to obtain a uniform color is to blue in cold water, and especially so in new work. I do not mean that the goods must be made stone cold, but cooled down.

Mr. Periera of Philadelphia: I find that I get better results, and I will guarantee that my colors will last for five years, if necessary, if I bring my blue water up hot.

I want it hot when the goods leave the machine, and I want the blue water hot, because I get a better color with the hot blue water than with the cold, commencing with cold water and bringing it up to hot.

The President: The gentleman wanted to know why that was done. I think there are laundrymen here who can answer that question.

Mr. Armstrong: I am the one who made the statement that gave rise to the question. After the bleach we use a hot rinse. Our idea is that the hot rinse loosens up all the lime, soaks it thoroughly loose, and cuts it up, and after that the cold water will precipitate it and throw it off better than hot water would do it. We have two cold rinses following a hot rinse at the beginning, and then comes a warm, not a hot sour. As Mr. Doremus says we always blue in cold water. We do nothing but bundle work, and have had no experience in new work. In doing old and new work they should be entirely separated. If it is better to use hot we want to know it, and we will try it after we get home and find out.

The President: My idea as to the object in using the cold rinse before bluing is to contract the fibre of the goods. If that is not done, the goods being open and porous, more of the blue will be absorbed in the thick places and they will show streaks—the wristbands and seams will absorb more than the thin places.

Mr. Barnes: We started out to talk about bleaching and now we have got around to bluing. The question that came up from Mr. Royce's paper was as to bleaching—the injury from bleaching. The point I wanted to arrive at was this: That we did not rinse enough to get the bleach out of the goods. Bluing is another matter.

Mr. Cassity of Pittsburg: I think goods well washed are half bleached. The subject of gray streaks has been touched upon in years gone by, and in one of the essays this morning was referred to as a chestnut. When the

goods are properly started in the washer, and the water is kept on the increase until you get to the top or through with the wash, you have got your goods half bleached. But if you put in your goods and turn on the full capacity of steam, as a great many do, you are working right against the laws of nature. If you start your washing at a certain temperature and increase it gradually until it comes to the top, not allowing the temperature to recede, you will have no trouble in bleaching. I am a little out of my latitude in talking about bleach because I don't use it at all. But I have been in places where they use bleach, and my observation in those places has been that they use too much bleach and, as our friends say, not enough water to rinse. A great deal of the trouble in bleaching you will find is on account of the washing. The goods are not washed with the same even temperature in order to keep the goods thoroughly loosened up, and then when they get through with the washing they do not run the water off with a warm rinse, not allowing them to get chilled. If you let them chill no amount of bleach will remove this gray streak or the black specks. If you will put a thermometer on the washer you will have less trouble with the bleach.

Mr. Armstrong: I think Brother Barnes is right, that we must thoroughly rinse. It does not matter how thoroughly we wash, if we do not rinse all the soap and sediment out of the clothes it is useless to blue them.

Mr. Doremus: I do not allow the water to get perfectly cold for the purpose of bluing, because it is not necessary. I use analine blue, and I am making contracts every day with new shirt men guaranteeing my color. If the goods are kept in the boxes for two years and lose color, I agree to do the work over again.

The President: May I ask why some of the goods in the same machine become streaked and others do not?

Mr. Doremus: I very seldom have that experience. If there is acetic acid in proper quantity used in the bluing when the bluing is made, I think you will avoid that trouble. The bluing is perfectly soluble in water, and if the machine is filled to a gauge, and bluing of exactly the same strength and measure is put in, you will not find very much of that trouble. Of course, we have different textures of muslin, and the softer material requires less bluing because it will absorb it more freely. You may take a Wamsutta and a New York Mills, and you will find some little difference in those two; and then take a Utica Mills, which is a very soft fibre, and you will find a difference again, because it is a lighter goods. In your washer of a hundred shirts you will find probably twenty different fibres of goods. That is the reason you should cool your water before you blue—to meet the case of the bundle laundryman, because he has those different textures in the same wash, and it is impracticable to separate them.

Mr. Hermans: We have some experience in new work, and we have the best success with warm rinses. We use no acid except what may be used in the blue, and our color will compare favorably with what is usually got in any laundry. Our bleach is chloride of lime.

Mr. Hagen: One reason for the trouble with bluing is that it is made too strong. If it is made weaker and used longer, I think you would get a more even color.

Mr. Periera: I agree with Mr. Doremus on color. I have had an experience of about fourteen years with new and old work, principally with new work. What he says about the different grades of goods is exactly right.

Mr. Cassity: The difference in color may be accounted for from the fact that you do not get the goods all to the same temperature, and in washing old goods you get all kinds mixed, and a linen handkerchief will not take blue nearly so readily as cotton goods, and so it is with your

shirts and collars. Lighter goods will take the blue more readily than the heavier. On different classes of goods you cannot get the same development.

OFFICE SYSTEM.

BY W. C. SHAW, ERIE, PA.

No business can be successful without the adoption of certain methods which make each employe responsible for his or her part of work; these connected parts give system to the entire concern. The proprietor or manager of any establishment should draw up certain rules pertaining to the particular business in which he is engaged, and the arrangement of his office should be such as is most convenient in carrying out these rules. In all mercantile establishments where goods are bought and sold the methods of office work and bookkeeping are very much the same, but in the laundry business we find as many different methods as there are establishments. To my mind an office is not perfect without a check system, and to have this it is not only necessary to procure checks, but also to have boxes made and numbered to correspond with numbers on checks. For instance, an office doing a business of $150 a week in call packages should have 400 boxes; of which 300 should be 18 inches deep, 6 inches high and 10 inches wide. These boxes should be numbered from one to 300 inclusive, and 100 boxes should be 18 inches deep, 10 inches high and 12 inches wide, and numbered from 300 to 400 inclusive. The checks should be of two sizes. The small checks should be numbered to correspond with small boxes from one to 300, and the larger checks numbered from 300 to 400 to correspond with the larger boxes. The reason for this is obvious; when a package is left at the office a small check is given for a small package and a large check for a large

package. The next thing is a clasp on each box to hold the coupon which was attached to the list.

We are now ready to describe the working of the system. First, when a package is received at the office the clerk should ask certain questions, and upon there questions and answers much depends. The first question should be, "What is your name?" and should be written plainly on the list. The second, "Will you call for it?" This question is important, and should be asked in such a manner as to give the person to understand that it is the proper thing to do. Do not ask, as so many clerks have done, "Do you want it delivered?" as nine times out of ten the answer will be "Yes," and your office business will grow smaller and smaller. The customer, stating he would call for his package when done, is given a check, the number of which is put on the list and the list tied to the package. In case a customer should ask when the package will be done, the clerk should answer to the best of his knowledge, allowing at least one-half to one day more time than is absolutely necessary to get it out, and the day or time promised should be put on the list. The bundle is now ready for the markers. They open the bundles one at a time, counting the number of articles and setting them down on the list. After enough goods are marked to fill a washer, these lists, which are termed a "lot," should be returned to the office for the accounts and coupons to be filled out and entered on the record book. The coupon when filled out should contain the name of the customer, number of check, mark, number of lot, date and amount. It is now ready to be detached from the list and be placed in the clasp on the box correspond to the number on the coupon. With this system it does not matter whether the man spells the name with a "K" or a "C" as far as being delayed in getting his bundles, as the package will be found in the box corresponding with the number on his check. In every case

where the check is presented the clerk should ask the name, as it will make it doubly sure that the bundle goes to its rightful owner. In case a check is lost a charge of ten cents for same can be very easily collected, and refunded when check is finally presented at office. In every case the party should be made to prove his package. For instance, ask: What did you have in your package? What size collars do you wear? Were your collars turned down or stand up? We all know it is *not* necessary to ask if the clothes are new, as no one sends old clothes to a laundry. You can readily judge from the answers to these questions if the party calling for package is the rightful owner. It now becomes necessary to keep a record of all lost checks, which is a very simple thing to do. Take a small book and number the lines from one to 400 with ink. When a customer receives his bundle without a check and pays 10 cents for same, you open this book and write, with lead pencil, the name opposite the check that is lost. When he returns the check you pay him his 10 cents and simply erase his name. Perhaps after this customer, whose name is Smith, receives his bundle, another person presents the lost check. You turn to the box and find no bundle or coupon in clasp. You ask what his name is, and he not being the rightful owner is unable to answer correctly. The check being in your possession you keep it and erase Smith's name from the lost check book, as Smith will never be able to return that check to you and you have 10 cents towards buying a new lot of checks. I think I have described all that is necessary to carry on an office systematically with checks.

Now let us see how it works when a customer calls for his package. He presents his check—No. 5 we will say. The clerk goes to that box; in case the bundle is in the box he simply delivers to customer, collects the amount charged on list, and puts the coupon on a spindle to bal-

ance the cash in drawer, and after the cash is made up, to credit the account on record book. If the bundle is not in box she finds the coupon and by that she can readily tell just what lot it is in, the amount and what the goods are marked. Going to the bundling room she can either find the package or find out enough to tell the customer just when it will be out.

At the end of the week after these coupons are all credited, you find on your record book all the accounts for the week that are not paid. These should be charged to their regular accounts in the ledger.

This system has been in operation in Shaw Bros.' Steam Laundry (of which I am a member) for six years, and not only do we find it practical but very simple to carry out after once in working order. One clerk can wait on as many customers as would take three clerks without this system.

OBJECTIVE POINTS.

BY JNO. R. PURCHASE, MINNEAPOLIS, MINN.

It is said that "fortune knocks once at least at every man's door." Shakspeare says: "There is a tide in the affairs of men which, taken at the flood, leads on to fortune; omitted, all the voyage of their life is bound in shallows, and in mires."

While these may be maxims of some value to mankind, there is an element in them that has a tendency to develop expectation at the expense of realization, which expectation, from the nature of things and from the true meaning of the sentences themselves, if they are carefully studied, necessarily ends, in the very large majority of cases, in disappointment.

The first sentence: "Fortune knocks once at least at every man's door," implies that in some cases it knocks, perhaps, more than once; but when Shakspeare says: "There is a tide," etc., he implies that there is but one

such in the affairs of a man's lifetime; and naturally, if there is but one, the chances of a man seeing and taking advantage are very small.

How many men do we find in our everyday life who are waiting for "something to turn up," and how often do we find the same person thus occupied. How much better off would that class of men be if they had started out with more energy and less expectation. Fortune help those who help themselves, and a man can have lost nothing when the tide turns in his favor, should he have been manfully pulling against the stream up to that time. Away with such maxims; they are but the forerunners or allies of the lottery and the gaming table. Speculation is their substance, dismal failure their result. Substitute for them a principle that will teach young men to look well over the field and ocean of life; help them to select their objective points and ports, and to strike manfully out on the voyage of life.

It does not follow, however, that one particular point must be a person's aim to the exclusion of all others. Many points of benefit and advantage will be found to come in line, none of which will interfere with the attainments of any of the others. But it were better to have only one objective point and reach that one with safety, speed and satisfaction, than to have many and reach none of them at advantageous times.

Well, but what has all this to do with the laundry business? I imagine I hear someone over there say. I believe it has a great deal to do with it, and I only wish my ability to intelligibly and fully express my thoughts to you was as great as that belief. I ask some of you veterans in the business to turn back the wheel of time to the starting point, go carefully over the journey of your business, and tell me if it is not true that you can see many places in that journey at which, had you stopped for a moment, as it were, and carefully considered, how

differently you would have done. Would you not have kept the main objective point more constantly in view?

There are points in the laundry business which should be the object of energy and enterprise, fully as many of many of them as in life at large. To make the business a financial success is, of course, the principal point, but to make that point regardless of the measure of success, merely knowing that it is not a failure, is not an accomplishment to be proud of. Neither is there any great satisfaction in reaching the highest point of success regardless of the points of health, happiness and strength, or of the respect of associates, employes, creditors and competitors.

In endeavoring to reach the real point of success there are many smaller points by the wayside that are not to be passed unnoticed, and some of them must be especially regarded.

The beginner must measure his ability and not undertake more than he can reasonably expect to accomplish, and he must use his ability with judgment. Many a laundryman has been wrecked by starting handicapped with a debt too great for him to carry, and many another has lost opportunities for advancement by misuse of his ability. I believe debt to be a good thing for a young man; it gives him a very good objective point to work to—that is, to get out of it; but too much of a good thing is good for nothing. So with credit. Credit is a good thing; too much of it, though, has ruined many. But while too much credit will bring debt, it cannot be as truthfully said that too much debt will bring credit. I have never been without debt since attaining manhood, but it is not the same old debt. Let good credit be one objective point, and once gained let it not be lost. The best way to keep a good credit is not to use it; the next best way is not to abuse it.

"A place for everything and everything in its place," is a maxim that adorned the walls of the schoolroom where my "young ideas were taught to shoot," and it will apply very well to a laundryman and his assistants. How many laundrymen have you seen wasting their time in marking clothes, figuring and copying lists, and many similar ways, when they might have been devoting their time to something more productive, such as planning and working for more business or the production of a higher grade of work; and out of the proceeds of such employment they might have been able to pay someone else for doing the detail work and have a handsome margin left besides. I do not advocate the proprietor being above the details of his business, but I claim he should aim at the more important points. I know what many of you are saying to yourselves. You say that no one can do these things as correctly as the proprietor. Very true, but you cannot do everything and you had better attend to the more important points, which no one can attend to but yourselves.

Again, how many of us have abused our health and strength by too close and hard work in our earlier days, losing sight of the important points of health and strength for the future. How often have we worked till past midnight and been the first "on deck" in the morning; worked all day Sunday to get the week's accounts straight for a clean start on Monday, and then got at that start extra early. I have heard my fellow craftsmen say to me when the result had arrived: "I never once thought it possible, but what you told me has panned out just about as you said. When I was working so hard, I felt well and strong and would have felt guilty of laziness had I left undone any of the work I was doing, but it did not last. It could not last. I gradually got tired easily; found I could not work as I had done, lost appetite, rest and sleep, and finally found myself almost entirely unfitted

for any work or business; was positively ordered to quit and go away for a time, which I did and have done so at several different times since. And now, while I desire at times to pitch in as hard as ever, I know that I had better not, and, in fact, I dare not."

It is a deplorable sight to observe a man striving toward success without regard for the respect of his business associates, employes, creditors and competitors. This is not so essential a point to be touched at when endeavoring to attain financial success, but the gratification and pleasure to be had therefrom is of no small measure or value. What pleasure does one have who must change his course when a competitor is observed approaching him on the street or in an assembly, in order not to meet him? Or what gratification is there to one who must drop his eyes or look both ways for Sunday rather than meet the quiet, honest gaze of a competitor whom he has wronged by some scurvy trick? What pleasure can one take when his attention is called by an apparently strange gentleman to the fact that years ago this strange gentleman was a boy in his employ, while he is very uncertain whether the reference is made with any pleasure or for the purpose of any pleasure, with the chances that neither of them ever had any pleasure or cause for future pleasant recollections, out of their business relations.

As members of this association, we should likewise have our objective point. What shall it be? Shall it be to make an annual pleasurable meeting of old acquaintances only, or shall it be to make it jointly an annual renewance of acquaintances and a continuous progression of the interests of our trade? I claim that the mere fact of the existence of this association is an advantage to our trade, but if we can make it progressive it is of so much more advantage.

It is an undisputable fact that all men are wrong about some things. Each one of us knows something that is unknown to some other of us. We may not be Clays, Websters, Evarts or McKinleys, but if we cannot teach others more than they know, let us use our best endeavors to teach them what we do know. If we all aim at this point it can but eventuate in the advantage of all. He who knows but little generally knows that little well and is sometimes better able to set it forth than the one who knows a great deal; and he who knows much, though he may learn but little, will learn that little in a degree corresponding in quality with the quantity that he may teach, while he who knows but little may learn much.

Then let us aim to make our special knowledge common and advance the common object of our association. The skeptic may ask, what is our objective point, as an association? In reply I would ask, what is the objective point of our navy? what is the objective point of the magnificent police force of this great metropolis? It is no less to do good for us than it is to keep harm from coming to our doors.

THERE IS ROOM AT THE TOP, AND HOW TO GET THERE.

WM. Q. LLOYD, WILLIAMSPORT, PA.

With your permission your most humble servant will endeavor to prove that there are two ways leading to triumphant success—both reaching the same goal through different channels. The first route is the roundabout way, it begins in obscurity, and passes through poverty, and finally reaches the foot or base of the golden stairs, the top of which struggling laundrymen are endeavoring to reach. That the stairs are long and narrow, the footing insecure and uncertain, all who have climbed them can testify. But has the prosperous laundryman who today

stands at the top, forgotten where he, in his ascent, stopped to take breath? Where he gathered new energy and keyed every nerve that he might be able to reach another landing higher up? Has he forgotten the landing where he stopped to battle with cut rates? and with the assassins he styles his agents, has he forgotten where he stopped to strike a balance sheet and found the balance wanting, or the want of a balance? No; all this is fresh in his memory as though it occurred today. And did he ever stop to think why the way was so long and the goal of his ambition so completely shrouded in the mist of the uncertain future? This time we say, yes.

For the sake of illustration we will start a laundry, taking the sure but roundabout way (on the principle that the farthest way around is the nearest way home). We will locate in a city where other laundries are doing business, because we can find no city where they are not. To begin with, we all know it takes about one hundred dollars per week to pay the running expenses of the smallest steam laundry, whether that amount of business is done or not; consequently we must influence or get in some way that amount of busiuess, and we get it. Now, we have started in a small way; we have small rooms, low rent, our boiler, engine and machinery are all correspondingly small, yet amply large for the business we have. Not satisfied with merely making expenses, we reach out for more business. We find we have room and help enough to increase our business twenty-five, fifty or one hundred dollars per week, with but little additional expense, and that this increase would be largely profit. The business still grows and we feel that we are making money, but to our astonishment, at the end of the first year's business we find our boiler capacity is inadequate to the demands on it, the engine lags, and the rooms that at first were large enough are now entirely too small. There is but one thing to do, and that is to enlarge our

plant. This means a large expenditure of money, and leaves us in debt on landing number one.

With the new laundry in operation we find that our expenses have increased wonderfully. Rent is higher, the consumption of fuel is more than double; we have an assistant engineer, an office girl to answer the telephone and receive the packages, and that it costs more to run two delivery wagons than one, and when pay day comes round we find that it costs $250 to pay the employes and running expenses, and that we have not done that amount of business. We are now on landing number two, with disaster staring us in the face, and a thousand tongues seem to say, "Increase your business or go to the wall." We find that we have the room, capacity and ambition to do a weekly business of $500, and that the additional help will cost us not over $25 per week. The business is here and we *must* get it. We do! but it comes slow, and in striking a balance at the end of the second year we are still in debt, with fair prospects ahead, however, and our business netting us a weekly profit. We are now on landing number three.

Just here let us pause and take breath. When we started our business we had but little money and few debts; we did the office work, helped check off, made the starch, and, if fact, was man of all work. At it early and late, the first one to come and the last one to go. How is it now? Business large, time fully occupied looking after details, a new man in the office, one in the check-room, another in the starch-room, all drawing salaries of from ten to fifteen dollars per week. We are doing business on a high tension. We are driving it, and we must if we would succeed. We must keep every salaried man and woman busy from Monday morning until Saturday night. Everybody and everything must move like clock-work. Step by step we advance, and the top is reached after many years. We have climbed the stairs. Now

let us go back and look over the other route, which we are pleased to style the elevated route. We will call a meeting, form a stock company, and start a laundry on a larger and more elevated scale. We make our capital stock $50,000, buy or build a large building, fill it with the latest and most approved machinery, taking great care that our boiler and engine are large enough to do the business we propose doing. Our horses and wagons are the finest money can buy; neatness and cleanliness predominate, everything is in keeping, from the wash-house to the stables. Our company is known as the Palace Laundry Company. We advertise largely, and in every conceivable way, that we do economic, scientific, high art laundering, and we do it. Business is showered upon us from every quarter, and with the velocity that almost takes our breath away we are elevated from the bottom to the top, and to our delightful satisfaction we find but one competitor there, and he is our friend. 'Tis he who climbed to the top, step by step. He is a king among us, a shining star in the crest of our esteem which lures us on to the goal and to the end.

Essays Read at the Convention held in Detroit, Mich., September, 1893, and discussions on same.

WASTE.

BY C. A. ROYCE, SPRINGFIELD, MASS.

In nature nothing is wasted or lost. The body falls into the ground; dust returns to dust. But in the laboratory of nature the elements that compose the body are restored to their originality and go forth again upon their mission of work. What is true of the body is true of all the works of nature. The elements of vegetation, built up by the chemistry of ages long ago, fell into decay and

were covered from sight, yet nature ceased not in her work, and today we have the fuel which warms our firesides and moves the commerce of the world, and so we might multiply illustrations. Man wastes, nature never.

But man has made much progress in recent years toward the utilization of waste, so called. Some years ago while sojourning in a Connecticut town, I noticed near a factory what seemed to be a large mound of black earth. This aroused my curiosity, and meeting one of the factory owners, I inquired as to this mound. "That pile of refuse," said he, "is the sweepings from our factory, accumulated in years gone by, and represents a loss of many thousands of dollars. It is not added to now, for today we know how to utilize this waste. The accumulation itself has been so effected by exposure to the storms and sunshine of years that we cannot use it, but we are saving it, hoping, aye, expecting to sometime know how to use it in our business."

The cheap clothing of the masses is largely made up of what used to be waste. In the slaughter of brute creation for the support of man, there is today no waste material; every part and parcel becomes, by the discoveries of modern industrial science, of beneficent use to man. There is no such thing today as refuse. The waste of science, art, manufacture and nature have their part in the economy of today. We are even learning that to pour our sewage into the lakes and streams, and there to get rid of it, is gigantic waste, for these elements may be and are restored to their original purity and become blessings to man. There is no need to multiply examples to prove the truth of our proposition. Where then will we find waste? I answer, in the laundry.

Before attempting to prove the truth of my statement let me say: In our organization there has been need for intelligent discussion of trade topics. I have endeavored in the past to promote these discussions and wish some

measure of success. It will be remembered by those who were at the convention in New York in October last, that I took up a certain subject and treated it in a way, not to settle disputed points, but to arouse discussions of these points to the end that we might be benefited thereby. Thus today I take the same course, and in speaking of the wastes of the laundry, I shall make no attempt to show how these wastes may be avoided, but rather hope that the discussions, which I trust will follow, will answer such questions better than I can hope to do. Again, I cannot hope in the brief time alloted me to allude to more than a small proportion of the wastes of the laundry.

I shall allude first to office waste. By most laundrymen it is considered imperative that a complete record of transactions shall be kept. When a customer comes to us bringing his package of clothing we must place upon our books his name, address, mark, list of articles, price and other memoranda. This in a business of magnitude means an immense amount of labor, and is, I maintain, largely waste. Not in the sense that the work is unnecessary, but in the sense that it is accomplished in a tedious and cumbersome way. The waste is time and energy; the saving lies in the direction of improved methods. What shall it be?

Next I come to the washroom. Here I have put the waste under two heads, water and soap. Other wastes there are, but these will suffice for present consideration. The laundry runs by water. We may perhaps state that upon the average the washing process consists of eight distinct operations. For a so-called number two machine, having a capacity of seventy-five shirts to a load, fifty gallons of water at least will be required for each operation, hence to wash seventy-five shirts according to the ordinary laundry process an expenditure of 400 gallons of water is made. Taking this as a starting point, we see that the expenditure of water in a laundry doing a

business of $50,000 per annum is simply enormous, and a large proportion of this expenditure comes under the head of waste, because water is never so foul that it may not be purified. In other words, in washing with water we have no effect upon it except to load it with impuries which may be quickly, easily and cheaply removed, so that the water becomes again fit for our use. Other effect there is not and cannot be except in change of temperature. Why, then, this waste?

Some will say, "Water is cheap, and any saving accomplished will not compensate for time and material used in recleaning the water;" but is this true? In many cases it may be so, but not in all, or perhaps in the majority of cases. In many laundries the water is paid for by measure; does waste pay here? In others the price charged for water is based upon estimates of the amount, and the lower the estimate the less the cost. Does waste pay in this case? Again, the water may be pumped from wells or from streams, but every stroke of the piston means consumption of coal. Is the matter of waste here unworthy of consideration? Again, in many instances laundries are compelled to use water that comes to them so charged with foreign matter as to be unfit for use, hence it must be treated chemically and by filteration before it can be utilized. All this means labor and expense, and when this water is poured out, our labor and expense goes out with it, and we must supply the loss with more labor and expense. Would it pay to reclaim the vital element of our business in such cases as this?

Thus we arrive at the absolute fact that a very large proportion of the expenditure of water in the ordinary laundry is clear waste. How shall it be avoided?

Next we come to the matter of soap. Let anyone step into the washroom of almost any laundry and he will find suds foaming out of the washer in greater or less volume. This is waste so evident that argument is unnecessary.

and the way of economy is so plain, that the "wayfaring man, though a fool, may not err therein." But this is not the only waste. I am not enough of a chemist to say in what condition the soap is in after the washing operation is complete. Whether it is still soap or whether by some chemical action it has separated, and instead of soap, we have in the water the constituents of soap, one thing is certain: We have either soap or the constituents of soap, and in no way are they changed in nature or strength. What, then is the problem? This I conceive it to be: How shall we reclaim the soap (or the constituents)? To pour it into the sewer is the most prodigal waste.

Other wastes there are. We find them in every department. Perhaps, however, I have already furnished sufficient food for reflection, so I may simply allude to some of the other avenues of loss, without attempting in any case to enlarge upon them.

There is the waste water in the boiler, too often evident to the steam expert; the waste of fuel under the boiler; the use of cheap but expensive fuel; the methods of the ignorant fireman; the thick fire or the constantly sliced one; the faulty draft, the foul flues; the low pressure when the high is so much more effective; the worn out or out of repair or out of date engine; the waste of exhaust and returns; the pouring of oil haphazard instead of just the right amount in the right spot; imperfectly cared for machinery, wearing out rapidly from foulness and lack of care, and the employment of cheap, careless and inefficient hands.

These, then, my friends and brethren, are the places where we will find the bung hole through which our profits escape. How shall we stop the bung? I leave the question with you.

At the conclusion of the essay Mr. Van Nort said: The committee think that this essay is worthy the attention of this body if it takes the whole of the evening to

discuss it. If there are gentlemen here who have overcome some of these wastes we will be pleased to hear from them.

The President: Has anybody anything to offer to prevent waste in the office?

Mr. Armstrong: For a great many years we have put our figures in the lists in the right hand column. If we have two shirts, 20 cents, we put down the total. I was compelled to do that ten or twelve years ago when I drove my own wagon, fired the boiler, ran the shirt machine and kept the office, and have followed it up ever since. We very rarely have any trouble from it.

Mr. Chiera: We have our price lists in the marking room and the work comes down to the clerk in the office already marked.

The President: I find the largest waste in my office in paying the help. I think that is office waste. Has any member anything further to say? If not we will go to the subject of waste in the wash room.

Mr. Cummings: Would it not be well to consider some general system of marking? It seems to me it would be practicable to adopt some standard way of marking so as not to cover up a piece of goods, a collar or shirt, with half a dozen marks that are not understood.

Mr. Conser: I think it would be a good idea for some one to give his system as a starting point. Each one has a system of his own and out of a hundred boiled down we might get one good one.

Mr. Armstrong: I find that a great many laundrymen use a small piece of muslin for a tag to mark such things as handkerchiefs or socks, putting six handkerchiefs in a bundle or three pairs of socks together. It is a great saver of time in assorting and marking. White and colored goods are kept separate.

Mr. Hagen: We have two girls working together. If it is wagon work the man who manages the route wagon

sees that the proper tag is on the bundle. One girl opens the bundle, counts the pieces and sees that they have the proper mark on them, and what is not marked is selected for the other girl to mark. Collars and cuffs are always marked the same way, all over. In the case of flannels and things of that kind we sew on a tag with a sewing machine. When the girl comes to goods that are to be marked in that way she pins on the tag and they are carried to the girl that is running the sewing machine and she sews on the tag where it was pinned by the marking girl.

Mr. J. D. Frazee: How do you mark handkerchiefs?

Mr. Hagen: In our town work we mark them with a number. In work that we are particular about we always put a tag on each handkerchief. Some of us who are fortunate enough to have one or two in our employ who can make neat figures may take the time to mark them in that way. But where you may have some who will do that neatly others will make them so large that the customer will grumble. In our town work we are not very particular if the girl does put a large mark on a handkerchief, because if they don't like it they will keep their handkerchiefs at home.

Mr. J. D. Frazee: Do you use numbers, initials or names?

Mr. Hagen: We use all; usually numbers. We find that we cannot apply the number system to everybody. If it is a hotel customer, and his goods are marked with a number, you must keep the same number for him, or if they are marked with initials or the name you must keep it the same and as nice as they had it before. We have a book in which we keep every man's name and number. If we want to find who has 8,422 we look on the book to see if that has been given to a regular customer.

The President: I have adopted a system of marking for my agents which has proved very satisfactory. For

my city customers the numbers, of course, run up to any number, and in the book the name is set opposite the number; but for agents I have a separate book for each. If I had an agent in Chicago I would have a book and the numbers would run from 1 up say to 1,000, and on the goods I would put "C" before every number, and every piece so marked that was left over I would know belonged to Chicago. If I had an agent in Springfield I would put "S" before the number, and goods so marked I would know belonged to Springfield, and they are not mixed with my city bundles. If two cities have the same initial of course I change the way of marking, take the initial of my agent or anything I have a mind to. When we bundle these goods we of course keep them in lots and are particular not to mix a lot. Occasionally we have a customer that moves from one city to the other, but in that case we do not change the mark. Of course mistakes occur. I do not think it is possible to run a laundry without. If a collar is blistered that goes back as a special, and that means that it is to come back quick. We have a special dry room rack for a quick time bundle.

Mr. Mohn: In regard to a go-back system I think Mr. Hagen has the best system I ever saw. He puts a brass tag on the article and no matter who finds it he knows it is a "go back."

Mr. J. D. Frazee: We use a red string, and the minute you see it you know it is a "go back."

Mr. Van Nort: We use a red string in special hotel work and a white string in a send back.

The President: How do you get the red out of the collar?

Mr. J. D. Frazee: You don't get it in. We use the French red.

Mr. Armstrong: In laundries in California, in marking they use numbers nearly altogether, and when a package

comes in they open it up and call out the name and the number and the clerk or bookkeeper in the marking room enters it in the book: The number is placed on the back of the neckband in the shirt, in very small figures. I was very much impressed with their method of marking and keeping the record.

Mr. Van Nort: I have noticed in goods coming from California that they mark the cuffs on the end between the button holes, and collars they usually mark where the band is.

Mr. Conser: We put the name on straight. We happen to have a marker who writes a very neat hand. On socks and handkerchiefs we use a tag of tape which is put on with a needle, the tape is put through and fastened with a loop and will never come off. If your goods are marked with initials or a number and the assorter don't remember the name, she will have to go back to the book, but with the name itself on it helps wonderfully in hunting.

Mr. Hagan: While you are working on a number of things it is quite important that your lots should be kept separate. We have a schedule that we work up to—a time schedule. We have often compared the laundry business to the running of a railroad. The work has to reach a certain stage at a certain time or else it is behind time. We have five checks, I think, for each lot. This is for shirt work. The shirt is always accompanied with this check and they work on that lot until it is finished, so that everybody in the laundry knows when the lot begins and when it ends. We find that system a great help in keeping our lots separate and distinct.

Mr. Van Nort: How many lots do you run during the week?

Mr. Hagan: I think sixty in collars and from twenty-seven to thirty in shirts.

Mr. Conser: I wish some one would tell me how we can use suds the second time instead of running them down into the sewer.

Mr. Mohn: Pump it overhead and use it the second time.

Mr. Conser: Is it economy?

Mr. Mohn: I cannot answer.

Mr. Chiera: We have tried it. We have used two washrooms, one upstairs and one downstairs. The bundle work went upstairs. We used to save the suds in a tank below and those we saved for the plain clothes downstairs. We found in a very short time that the tank was very dirty and had quite a nice (?) smell.

Mr. Conser: The point I am after is how to purify it and use it, and have it cheaper than other water.

Mr. Hagan: We have experimented some with water-saving in Rochester and have had some satisfactory results from it. We put a large tank on top of a washing machine with three apartments in it, and then we take a rotary pump and attach it to the washing machine. We use one rotary pump to four or six washing machines, and one tank for two washing machines. The water will be equalized that way. We apply it mostly to washing shirts and collars. We pump the second suds up into one of the tanks and save it there until we come to the next lot—there is not much dirt in the second suds—then we run them out and they become the first suds in the next washing machine full; and after it is used it is run out into the sewer; then we take the hot rinse and run that into the washing machine to make the second suds, and then pump the second suds back into the tank, and by so using the suds over and over you save your suds and your acetic acid. Our object principally was to save the water. It also saves considerable money in heat. The hot suds are put into the tank and they stay hot. We find it economical in heat, in water and in acetic acid. (Applause.)

Mr. Cummings: It has been a question with me to know at what speed the best results would be obtained in running the washing machine.

The President: I have in mind a machine that I bought that was put into my place and started. I do not know what its speed was, but it was running very much slower than any machine that I had. I told my man that would not do, but we would wait until Saturday before changing it. The day was not over before he told me that it washed just as fast and a good deal better than those running at a higher speed. I then told him that we would reduce the speed of others. I cannot tell you the speed we are running at, but we are not running our machines over half as fast as we were a year ago.

Mr. Frazee: I do not think that there are any two machines that you can run at full speed. It all depends upon the size of the cylinder. You cannot run a large cylinder at the same speed you can a small cylinder.

Mr. Chiera: In my experience I find it makes no difference what the size of the machine is. I run them as fast as I can so long as I can hear the clothes drop. A No. 3 washing machine we run at about forty revolutions. We find by running at that speed we do not need to have a woman to wash them over.

Mr. Williams: We find that with a slower speed we accomplish the work much more satisfactory and there is less complaint on account of tearing the goods. We all know there is more or less trouble from that cause as the goods get older, the goods being torn in the machine.

Mr. Doremus: With a thirty-inch cylinder my experience has been that about thirty turns is the right speed. You will do better work; there will be less wear and tear and you will not tangle your goods. I think as a rule laundry machinery is run too fast. A man should be governed by the size of his cylinder. A small machine, 26 or 28-inch cylinder, might run 35 or 38 turns per

minute. A 36-inch cylinder I would not run to exceed 28 turns per minute.

Mr. Armstrong: I would like to hear from some gentleman on washing. There is a washman in our city who has told me that he only uses one suds in washing, and the place he is employed at turns out beautiful work. He worked for me two weeks and did not turn out a single batch of good work. He went back to the same laundry he came from and turned out beautiful work. If there is any one that succeeds with a single suds I would like to hear it explained.

The President: I believe Mr. Doremus could entertain us on the wash question.

Mr. Taylor: I think Mr. Armstrong could get along with the one suds if he would put the clothes in the machine and run them for ten or fifteen minutes, using cold water to start with, putting borax in the water; then run the water off and then run them for an hour or three-quarters in one suds or as long as necessary, but that is long enough. We use Ohio river water.

Mr. Armstrong: Do you use borax water for the first water?

Mr. Taylor: Yes, sir; or bicarbonate of soda; anything to soften the water.

Mr. Doremus: My washing process is red hot from the beginning until the last I cool the clothes down just sufficiently to take the blueing properly. It is a mistaken idea that clothes will not take the blueing when they are warm. They must be made neutral in order to have them take any color; that is to say, every particle of foreign matter, mineral or vegetable, must be taken from the fabric. Now I would prefer to have some gentleman ask me a question.

Mr. Anthony: I do not like to get up before this assembly, as I am a new man, but I cannot get my clothes clean. I use warm water in the first suds and

run about forty minutes—make them ordinarily hot. Afterwards I change them and start them with a slow boil. It takes me about two hours to get a washing done, and my shirts show streaks in the sleeves.

Mr. Doremus: What kind of soap do you use?

Mr. Anthony: I use the chip soap, make the chips according to the average directions and I use about one pound of caustic soda to ten gallons of soap.

Mr. Doremus: Try a little more soda. Those are evidently grease stains in the sleeves and your soap does not cut them. Is your water hard?

Mr. Anthony: I break it with caustic soda. It is Ohio water. It is a kind of surface water from a gravel pit and it is yellow. The water looks nice and clear and after you bail it out it looks yellow.

Mr. Doremus: Break it with potash instead of caustic soda. You have sulphur in your water. Your process is all right, but you are not getting alkali enough. How many shirts do you put in a No. 2 machine? Seventy-five?

Mr. Anthony: Not any more than that.

Mr. Doremus: How fast do you run your machine?

Mr. Anthony: I run the shaft 133, I guess. There is a 12-inch pulley on the header and a 12-inch pulley on the shaft.

Mr. Doremus: What kind of machine do you use?

Mr. Anthony: It is a Troy machine I wash the clothes in. It runs about the same as the average that I see around in the cities.

Mr. Doremus: The reason that I ask that is that the speed of the washing machine has as much to do with the washing as the material you use; that is, the machine should not run so fast that the goods will not drop when they get to the top of the center. It is the passing of the water through the goods that cleanses them, after the dirt has been made soluble by the water. To make it soluble

of course you have the proper ingredients in the water. I would advise you to get the best chip soap you can get. It may be a neutral soap. There is not much surplus lye in any soap, because it will not take it up.

Mr. Anthony: I cannot use some chip soap at all and I am satisfied it is good.

Mr. Doremus: That proves to me just what I started out to tell you, that your great trouble is that you have not alkali enough in your water or you would not have those streaks in the goods. You go to work and double up your alkali and I will guarantee that it will not hurt the fabric a particle, and it will save you something on your soap bill.

The President: I would ask if it does not make some difference about the temperature of the water.

Mr. Doremus: Yes, but he stated that he brought up his second suds pretty well up to a boil, and that is my idea of washing. I would suggest in connection with that that you use your first water hotter.

Mr. Anthony: I use it very warm—160 degrees.

Mr. Doremus: I thought so. That is not hot enough; but that is not your trouble. Do as I have told you. If you are using 60 per cent of caustic soda put in double that amount, and don't put into your washing machine to exceed sixty shirts, and lay them in straight, heads and buts as we call it, and after they are wet don't have more than six inches in the bottom of the cylinder.

Mr. Mohn: For the benefit of the gentleman from Ohio I will ask if you would put soiled and greasy goods in hot water to begin with?

Mr. Doremus: Yes. I want to say in connection with that matter that a gentleman told me here last night that he heard me state my method of washing in New York last year and he went home and tried it and found that it came out all right.

Mr. W. W. Crothers: I am that man. I used the hot process all the way through and I found that the clothes came out clean and all right.

Mr. Doremus: I think if the gentleman from Ohio will follow out what I have said that he will overcome his difficulty. In the first place, all matter contained in goods is either vegetable or mineral. You cannot touch mineral matter with soap and water. For instance, cotton goods especially will take up iron. You may take sheets and pillow slips and laundry them as nicely as you know how and you will find that they will gradually become yellow. I never use a particle of washing soda for laundry purposes because it will make the goods yellow. I at one time gathered water from thirty-one states of the United States and had it separately analyzed. I had two objects in view. One was to find out the different nature of the waters in the different states for the purpose of knowing how to handle those waters; the next was to find out how I could get the best showing on new work there was in the country and I succeeded in getting it. I first had to find out what to do with my water and then I looked into the matter to see how I could get rid of the yellow substances, and I found that remedy in oxalic acid.

Twenty-six years ago, when I left the Pullman laundry, I had kept their sheets in very nice shape. Their sheets began afterwards to get yellow from Lake Michigan water and Pullman did not like that, and came to me and wanted to know what I would bleach those sheets for. I told him and he gave me about seven thousand to bleach and I bleached them. I got up a little retort, manufactured chlorine gas, impregnated the water, put them through a sulphuric acid bath, rinsed them out and turned them over to the company nice and dry, every piece as good as it ever was. I put my own price on the work and they said it was too high. Afterwards they

undertook to bleach them themselves and Albert Pullman invited me over to the old laundry where I commenced to work. I went over and saw a hogshead, so high (indicating), put my hand on it and it was hot. I said to Albert Pullman, "I will bet one hundred dollars to five that you cannot pull one sheet that will be whole by pulling at it, and you will have to tumble them out with a pitchfork." I was not so old as I am now and I thought I knew a great deal. He said to me, "You are a pretty young man to talk that way. We can do this work, but we don't want to bother with it. You just cut your price in two and we will gladly let you do this work." I said no, and I made him another proposition: "If you can take one of those sheets out of the middle of that hogshead (they looked like mush and milk there) pulling on the end of it, and it holds its own weight I will bleach in perfect shape 10,000 of your sheets for nothing and 10,000 slips for nothing, and if you cannot do that you are to let me bleach 100,000 sheets and 100,000 slips, and you are to pay me two cents apiece for the sheets and one cent apiece for the slips, and I will do it for you between the 1st of November and the 1st of March, as you can spare them." He accepted the proposition. He called a man there I knew very well, Neal Graves, a tall fellow, and he went for a step ladder and pulled on one and it fell to pieces. "Oh, that is because they are so heavy. Wait until we get them from the middle." Well, the biggest piece of a sheet that he pulled out there was not bigger than a handkerchief. I won the bet and made about a thousand dollars with very little work. I got the sheets to bleach and I bleached them. The sheets had become yellow from taking up little by little the iron in the Lake Michigan water and concentrated it in spots. When you use sulphuric acid for bleaching you must use it as the chemist does or you will ruin anything and everything you touch with it. It

is antagonistic to the chlorine gas; the acid and the gas get to fighting, leave the goods and take out the color.

I will say again in regard to the washing process, put in seventy-five shirts in a No. 2 washer with six inches of water heated to not less than 100 degrees; put in a little soap and leave it five minutes, then put in a little more soap; by that time the dirt will have neutralized the soap. In the first water you may put in three or four dippers full of soap; wash fifteen or twenty minutes and run the soap off in the water. That takes the rough dirt out of the goods; then put in six inches more of water, as hot as you like—I do not care if it is boiling—not less than 160 degrees, and put in soap just as before. Some people put the soap in all at once. This is a mistake, unless you have plenty of money to pay soap bills. Then in the second water wash until the clothes are clean; three-quarters of an hour is long enough. You want soap in there all the time, and it must be stronger than the dirt in the goods so as to cut it and get it out. Then follow with two rinses, up to 200 degrees, for the purpose of getting rid of the soap. Don't be sparing of the water in rinsing; I do not care if the machine is half full. Then put in water and cool it down for blueing. Then mix your blueing. We put in about two inches more of water for blueing than for washiug. Put in a given amount of the blueing, two or three ounces, according to the strength of the blueing, wring out the clothes and they will be all ready to go to the dry room.

A Member: Do you blue in warm water?

Mr. Doremus: Yes, a little warm. I wash in two waters, rinse in two waters, cool down in two waters and blue in the sixth. That is my process.

Mr. Armstrong: I would like to hear from Mr. Doremus on the subject of the dry room. I have never been able to dry shirts, collars and cuffs under an hour or an hour and a half.

Mr. Doremus. I have a little bit of a dry room in my place, a floor surface of ten by twelve feet, and I can dry a new shirt in there in from ten to fifteen miuntes, and you know it takes a third longer to dry a new shirt than an old one. I carry 115 pounds of steam and my blow off is at 120. In constructing a dry room you want to provide for ventilation, but do not take your hot air at the top. You will find three stratas of air in your dry room. The top air is dry and hot, the bottom air is cold and the middle air holds the moisture. I have no opening in my dry room for the cold air to get in. It will get in without an opening. My ventilating pipe is placed at about one-third of the height of the dry room from the bottom. You can smell no steam in my dry room. The air will take up only a small portion of the moisture, and as it takes it up the air drops but does not drop so far as the cold air which is at the bottom. Heated air does not rise of its own accord, but the cold air rushes in and forces it to rise. When the air has absorbed the moisture you have to get it out, for the quicker you get it out the quicker you dry your clothes. In my little dry room I have dried 12,000 shirts in a week, 2,000 a day, when we were working on new work. I use a double coil of pipe and cover the entire floor of the dry room with the pipe. In nine-tenths of the dry rooms I have seen there has not been a proper circulation in the coil. Inch pipe is the most practical size. The circulation should return directly to the boiler. The feed pipe should be larger than the return pipe so as to give sufficient pressure, and the return pipe should be large enough to carry off the water and steam.

ARE LOCAL ASSOCIATIONS BENEFICIAL?

W. H. GARLOCK, CLEVELAND, OHIO.

If "self-preservation is the first law of nature" it is fair to suppose that association is the second. I think I have

read somewhere (I cannot just tell where, perhaps in the Good Book) that it is not good for man to be alone. If we look at the tropical climes of the south, where blushing flowers scatter their sweet fragrance around and make the atmosphere delightful to breathe, or if we turn to "Greenland's icy mountains," it is the same that makes us feel the need of association with our fellow men. Such then is association and the beneficial results following. It is true that we encounter here and there a person, or we might say a hermit, who withdraws himself from all social contact with his fellow men, and takes up his abode, as it were, in some lonely wilderness, or he may be cast by shipwreck on some rock-bound isle of the sea, there to remain for years, secluded from society, "monarch of all surveys." We invariably find a person of this kind subject to an inestimable sacrifice—secluded from his fellow men. He has no opportunity to develop socially, morally or intellectually. So the Lord said "It is not good for man to live alone" and he immediately gave him an associate. This, no doubt, was the first organization on earth of an association, an organization for the comfort, happiness and benefit of that couple. I have not the least doubt but that that association has been productive of as much or more happiness than any association that has ever followed. No doubt this association was the bed-rock of all other associations down to the present day, and is the keystone that supports all domestic and civil governments. It is surprising to note the application of this association rule in nature, for here we not only find that "birds of a feather flock together," but even in the insect world we see the little busy bees swarming together, thoroughly organized, acknowledging a king and pressing forward to conquest, with almost human intelligence driving out every drone which might stand in the way of those who do the work.

This association for mutual protection holds good in the vegetable as well as the animal kingdom, for not only the flowers and shrubs thrive better by association, but the mighty forests of pine and oak bow in humble submission to this fundamental principle and associate themselves with floral meadows, pine groves and oak forests. I tell you, gentlemen, that association is the great fundamental principle on which depends, in a great measure, the success of our business. What means of assistance could a person of limited resources turn to for protection against the grasping hand of some individual, controlling almost unlimited means, or upon what could he lean for support when some vast aggregation of wealth would cast its weight upon him, were he not armed with the potent arm of the association? Not among men only do associations for mutual protection hold good. Look at that little flower striving to bloom in the midst of a great meadow, striving, as it were, for an existence; but when associated with its fellow flowers, with others growing round about it, see how it thrives and grows, and how beautiful. The mighty oak that has been spared by the woodman's axe, and stands alone in the open field, is the target of every furious wind that blows, and is soon wrung, twisted and bent until it is unable to withstand the strain longer, and one by one its branches wither and fall, and at last the cyclone, with its devastating breath, breaks upon it, and it is laid low unable to rise again; but, if associated with its forest fellows its leaves are green, its branches strong, its roots deep in the solid earth and it can withstand the blast of the severest storm.

Almost the first question asked by one contemplating the organization of a laundrymen's local association is: Do you get any benefit from your association? Such a question as this sometimes makes me weary, especially when propounded by a man of ordinary intelligence. Were I to enumerate all the benefits of our Cleveland as-

sociation it would take more time than would be allowed in this paper.

Permit me to give you a little of our own experience, that you may the better judge whether a local association is of any benefit to its members. On the 18th of December last, on Sunday morning about 6:30 o'clock, I was ruthlessly aroused from my slumbers and was informed by a newsboy that our laundry was in ruins, was burned out, was gutted by fire. This was the cheering news that greeted my ears on that memorable Sunday morning. I hastened down town to see for myself the extent of the conflagration. I found a very interesting and entertaining sight, altogether different from any that I ever before witnessed, that is, it seemed different and more interesting to me. I do not remember when I had witnessed a sight of so much interest. Nothing at the great big show at Chicago, not even in the Midway Plaisance, was half so interesting. I found a heap of blackened ruins. One policeman, two of my competitors, and several other sightseers, viewing that delectable spot which only a few hours before had echoed with the hum of busy machinery. I had not been there many minutes before another of the C. L. A. came and then another until the whole Cleveland Laundrymen's Association was on hand, each asking what he could do to help us out of that fearful dilemma. Let me ask the gentlemen of this association, will any of you ask the question: Are local associations beneficial? Please do not ask me, as my opinion of you at present is that you are all rational and intelligent, endowed with a full share of common sense.

While studying over the situation and racking my brains, trying to see my way out of that fearful hole, another member of our association appeared upon the scene, Mr. Mireau, of the Cleveland Steam Laundry. While every other member of the C. L. A. would have been just as willing and ready to have done the same, Mr.

Mireau says: "Well, W. H., what are you going to do? What can I do for you?" I said, "That is hard to tell. It looks pretty tough." "Well," he said, "I will tell you what I think you had better do. There is my plant that you are welcome to use from 6 p. m. till 7 a. m.; take it and do your work at night and your customers will not know that you have had a fire." Now, do you ask, are local associations a benefit? How would it have been with you? Ask yourselves this question. I know what some of you would answer where there is no association. Each laundry would make a grand scramble for the work of the disabled competitor, and before he could recover his trade would be lost, his business ruined, and no doubt he would be relegated to private life. Do you still ask, are local associations a benefit? You might as well ask this country in its present state of financial distress, if it is best for congress to agree on some plan of relief, or whether it would not be better for each representative to have some views of his own and act independently of all the other members and cause chaos and confusion to reign supreme. Would it be better for each individual soldier of a regiment to undertake to fight the battle on his own hook or march in solid phalanx with his comrades, sweep down upon the enemy and vanquish him in one tremendous charge?

Not only in case of disaster and loss by fire is an association beneficial, but in a thousand ways is the poor harassed laundryman made to feel more contented, more secure and happier in knowing that his competitors are not seeking to build up their business through his ruin and downfall. Before the organization of our Cleveland association, six or seven years ago, it was the customary and correct thing to do, when a competitor was coming down the street, to have business of great importance on the other side of the street, or something of paramount interest attracted attention in another direction. In fact,

for nearly two years after locating in Cleveland I did not know some who are now my best friends, also my competitors. How different now for the past six years! We are always glad to meet our members and to do all we can to assist them when an occasion demands it. We usually meet twice a month for the purpose of talking over matters pertaining to business, and have a good sociable time generally.

It is also a source of great pleasure to our members to entertain our friends who drop in on us occasionally, especially when our president, Mr. Shaw, happens to be that visitor. Not he alone, however. Remember the latch-string of the C. L. A. is always out to all friends of the L. N. A. We hope to hear in the near future that the laundrymen of many localities will follow our humble example and band themselves together in one strong bond of friendship.

Do not think so much of your own personal interest as to ignore that of a competitor. He has rights as well as you that you are bound to respect. It is a shame and a disgrace when men engaged in the same line of business cannot agree in peace and harmony, and I believe there is no line of business where so much jealousy exists as among laundrymen. What a shame! What a disgrace! One laundryman may think it an advantage to offer an agent five or ten per cent more than another is paying him. Do not forget that that same laundryman can "see your five" and perhaps go ten better. Where then is your advantage? Strive to hold your trade by turning out good work and deliver your goods promptly.

If you organize an association in your town you must not think that it will run itself after you have it on its feet. Keep up the interest by attending the regular meetings; be social; be friendly. It will pay you. Such then is association and the beneficial results that follow it. If we listen to the voice of nature, human, animal or veget-

able, or have regard for the teachings of our daily life, we must rest assured that by organizing this association, of which I am proud to be a member, we but followed the dictates of reason and good judgment.

Essays Read at the Convention held at Rochester, N. Y., September, 1894, and discussion on same.

WASHING.

BY J. J. VAN NORTE, OF SCRANTON, PA.

Some time in June I received a request from our worthy President as follows: "I wish to prevail upon you to describe your process of washing; not your idea of how it should be done, but how it is done in your establishment; size of your washers, the speed they run, heft or size of loads, number of suds and rinses, etc. After you are through with your description, I wish you would kindly answer any questions that may be asked by any of the members present."

Had the request been to describe THE process or method of washing, I would hardly have had the presumption to attempt a compliance, but would have waived my right to one older and of more experience than I. However, as the request goes only to my methods I gladly appear before you.

First, our washroom is situated a little below the street grade, but nevertheless through our eight-foot windows we obtain one very important requisite—perfect light. It is supplied with large capacity filter, hot water heater for both washers and boiler, and hot water tank to catch as far as possible the condensation of all the live steam pipes.

The floor is of concrete and so graded that all the the water runs to the wash trench which extends along

one side of the room, six inches from the wall, and is five inches deep by three feet six inches wide and in the center has a gutter ten inches wide running from three inches in depth at one end to eight inches at the other, where it enters into the sewer through a six inch Bell trap. In this trench washers stand with an average space between tubs of four feet for header, steam and water connections. Our steam connections are of one inch pipe, and run along the wall about four feet from the floor, while cold and hot water each is carried in one and one-half inch pipes along the wall about five and six feet respectively, above the door. Our washers empty into the above described gutter, and if the latter overflows (which is seldom) the trench never does. The extractors are five feet in front of the washers, and so placed that each extractor is midway between the washers.

Washer No. 1 is a brass cylinder, 40x50, without partition, and is used almost exclusively for white shirts. In this machine we make our loads of from 100 to 150 shirts, or from 70 to 100 pounds, though we endeavor to keep the loads as light as possible. Our countershaft over our washing machines runs 170 revolutions per minute. This machine has 18-inch pulleys, while a 14-inch pulley is used on the shaft, thus making the speed of the machine pulleys about 130. The inside cylinder accomplishes 18 revolutions a minute, making two turns before it reverses.

Washer No. 2 is a collar and cuff washer, 24x44 brass cylinder, carrying a load of 40 to 50 dozen collars and cuffs, or from 20 to 30 pounds. The cylinder of this machine makes 22 revolutions a minute.

Washer No. 3 is 36x54 and carries from 80 to 100 shirts, or from 60 to 70 pounds. The speed of the inside cylinder on this machine is about 22 revolutions a minute.

Washers Nos. 4 and 5 are each 30x48; each loads from 50 to 60 shirts, or from 40 to 50 lbs, with the inside cylinders giving from 20 to 22 revolutions per minute.

Now as to the washing process:

First, cold water is run into the machine until about 4 inches is shown in the glass, and the machine is run five minutes. Second, both the hot and cold water valves are thrown open until the glass shows four inches of water, then warm liqnid soap is added, and the machine is started on a twenty-five minute run. Third, hot water at 200 degrees is run in until the glass again shows four inches, when soap is added and the machine is run forty-five minutes longer—the water being kept up to the boiling point. Fourth, we give two hot rinses with plenty of water. Fifth, we run on the same quantity of hot water, to which is added two quarts of bleach (lime bleach composed of lime and carbonate of soda) and run thirty minutes, bringing the water up hot at the finish but not to a boil. Sixth, then two hot rinses again, of ten minutes each, the machine being in operation while the change is made, and on the last rinse we leave the water valve open continuously, washing out the overflow. Seventh, warm water is run in until the glass shows four inches, and the machine is then run ten minutes on acetic acid, and, finally, cold water is run on, enough to cover the goods. The load runs about ten minutes in aniline blue water, after which the clothes are wrung out.

Such are the washers used in my establishment, and such the washing process. In such an assemblage I would hardly have the temerity to pass any high ecomium upon that process, but will only say that its results are highly satisfactory from an ecouomical standpoint, and increasing patronage would indicate approval of the method I have adopted.

As to the second portion of our President's request, that I "will answer any qestions that may be asked," I can only say, and I say it honestly, truthfully, and after most mature deliberation, that there are many, many

things in "Heaven above and in the earth below" of which I know absolutely nothing; so that they who have questions to ask will really find themselves in a limited field. Indeed, I would rather be the inquirer than the answerer in laundry matters, especially in this presence, for I feel the need of more knowledge much more than the ability of imparting any to you. I will, however, do the best I can, and if I cannot answer I shall take the liberty to call upon some whom I see present to answer for me.

The President: Has any one any remarks to make relating to the subject of the essay?

A Member: How much time is taken?

Mr. Van Nort: Two and a half to three hours.

The President: I am a little surprised that some of you are not taking exceptions to the method our friend has described. If any of you have anything better the association would be glad to hear from you.

Mr. Armstrong: The exception that I would take is that it takes too much time. Time is precious.

Mr. Kelso: How many different waters do you use?

Mr. Van Nort: I have not thought of that specially; I think it is nine.

Mr. Doremus: Mr. President, I think it is wrong for a gentleman to kick against a process given in an essay unless he can tell how he can beat it. I think that gentleman who has been kicking had better get up and explain his process.

Mr. Armstrong: Mr. President, in answer to the gentleman from Cook county, the first objection that I make is that if you run the machine three hours you are going to wear the clothes more than if you run it an hour and a half. I honestly believe that the quicker you get the goods washed the better it is for the goods and the better it is for the laundry.

Mr. Beck of Atlanta, Ga: If Mr. Kelso will give us his method of washing I think we will all be thankful for it

Mr. Kelso: I would like to hear from Mr. Armstrong on his method.

Mr. Reed: I see that our friend Mr. Armstrong does not explain how the time is to be reduced. We would like to have him explain how he does it himself.

Mr. Armstrong: In the first place we fill and empty quick. We start with cold water; run the suds off in abont fifteen minutes; then run the second suds about twenty-five minutes; then rinse slow, about an hour and thirty minutes, taking two hours to two and a half. We get our clothes fairly clean. Fifteen minutes is the limit of the bleaching.

Mr. Frazee: How many waters do you use?

Mr. Armstrong: Eight, including the bluing.

Mr. Royce: I see that Mr. Van Nort uses hot water almost entirely. I should like to inquire the reason for using hot water. I should like to call out a general expression as to the reasons for using hot and cold water in rinsing. Which is best and why?

Mr. Armstrong: Give yours.

Mr Royce: I am asking a question. I would like to learn and I presume there are others here like myself who would like the information. I would like to see the subject thoroughly discussed. I would like to hear from Mr. Bowman how they do it out west.

Mr. Bowman of Sedalia, Mo: We get through a little quicker than that. We use only five waters in washing. I open the cold water valve, run in about four inches of water, throw in my caustic soda and let the wheel revolve until it is thoroughly dissolved; put in my soap, about a qnart; load in eighty to one hundred shirts in the brass cylinder, turn on the steam and let it run twenty-five minutes. We do not heat the first water hotter than you can bear the hand in. We run that off free. The second water we run for about fifteen minutes in soap alone; then we add the bleach to the second suds and run

it fifteen minutes longer; that makes thirty minutes for the second suds. We run that off and run on the hot rinse. We run that from five to seven minutes. The next rinse is the sour. That is made up of hot and cold water. In the next water we use our bluing. The whole process does not exceed an hour and a half. We first use cold water; run on the cold water five to ten minutes. I do not think we have lost anything by adopting that system. Our work has given satisfaction. Our trade has increased right along. It takes a little more time in the rinsing, that is all. I believe the best results are obtained by quick washing. If you break your water thoroughly and have your machine speeded right you can get the dirt out in thirty or forty minutes. The balance of the time you can devote to rinsing and getting your color.

The President: I understood from Mr. Royce that he wanted these processes described, and as they were described he wanted the reasons given. The gentleman who just sat down did not comply with that request—why the process should be used. There is one gentleman who is very conversant with the subject of washing, and I would like to have him give us a description of his process and the reason for each step as he goes along—why he does it so. The gentleman I have reference to is Mr. Skinner of Buffalo. (Applause.)

Mr. Skinner: Mr. President, I am not a practical washer. I find that the processes used now are very much different from what they once were. The process described in the paper that has just been read is the same process that we have used. We run in cold water to start with for fifteen minutes. We wash collars and cuffs in fifty minutes; that includes washing, rinsing and scouring.

Mr. Chiera: I would like to know the style of your cylinder.

Mr. Skinner: Brass.

Mr. Chiera: What is the size of the inside cylinder

Mr. Skinner: Thirty-eight by fifty-four.

Mr. Shaw: I do not think that Mr. Royce's question has been answered, and I do not know that I can answer it. The reason that I rinse with hot water is that the clothes are expanded by the hot water and contracted by the cold water; consequently it requires hot water to open the pores of the cloth in the rinse to get the soap out.

Mr. Van Nort: I had the same idea stated by Mr. Shaw. I got the idea somewhere that the heat would expand and shut the pores, and you do not want to shut up the pores until you get through the washing process.

Mr. Royce: Heat will undoubtedly cause expansion, but does the material expand and at the same time the pores expand? If it expands the material to use the water hot, instead of opening the pores would it not close them? I would like to have Mr. Shaw answer that question.

Mr. Shaw: I think that expanding the material would expand the spaces in the cloth; that it expands all the goods; that is, you will find, if you measured, that the cloth would be longer when it was hot than when it was cold. I never tried it, but I am satisfied that there would be some difference in the length of the cloth in those two cases:

The President: There is another gentleman here who is very conversant with washing, having spent a great deal of time in the washroom. I refer to Mr. Champeney of Buffalo.

Mr. C. T. Champeney: I do not think that our system differs much from that of some others. I can give it and my reasons. We run our first suds cold about fifteen minutes and run about half an hour in hot suds, using the water as it comes from the tank

Mr. J. D. Frazee: Why do you run cold suds first?

Mr. C. T. Champeney: Our reason is that we think the cold water gets the stains out more readily. We put in the soap and the bleach, running it half an hour, the last ten minutes bringing it to a hard boil. We give them another with the idea of washing the bleach out as much as possible so as not to effect the bluing. We use the soap in liquid form. We use a hot rinse and a cold rinse, a cold souring and bluing, running about five minutes. It takes about an hour and forty-five minutes to get out our wash, and we have a two-inch supply and a three-inch waste pipe.

Mr. J. F. Braden: Is it safe to run it up to a boiling point?

Mr. A. J. Crawford: Personally I do not favor cooking clothes. We rinse in hot water because we think the hot water gets the soap out better than cold water.

The President: I am satisfied that the longer clothes are kept revolving in the machine the more lint is taken from them. You can easily determine that by placing a strain cloth over the mouth of the washing machine and testing the water.

Mr. J. E. Kelso: I would like to hear from Mr. Walker of Washington, D. C.

Mr. F. H. Walker: I take for the first suds an equal amount of hot and cold water; run about eighteen minutes; I then run off and put on another suds and boil them. I then give a short rinse. I feed with two-inch pipes, and turn on the hot water. I have the same idea that Mr. Shaw has, that the heat brings out the dirt. After running the rinse off I turn on the hot water and put the bleach on and run the bleach about five minutes with a quarter-inch pipe; then run it off and put the hot rinse on again. After that I put on a cold rinse and then a sour; an oxalic rinse afterwards and blue last.

Mr. J. D. Frazee: Do you use a hot or cold water for the sour?

M. F. H. Walker: Use cold water for the sour and heat my sour up. The hot rinse is pretty near boiling, and just a little steam brings it right up; as soon as it boils I throw it right off. My exhaust is four inches and it takes very little time to drop it out. It takes me about an hour, actual time, to get out a wash, and I do that right along. I do about $1,800 a week and never have but two washers in operation, although we have four.

Mr. W. C. Shaw: About five years ago I thought I had found a secret in washing and I would keep it to myself and nobody in my part of the country would get onto it. After I had used it about a year one of my competitors having acted pretty straight I thought I would tell him about it. When I told him he said, "Why, I have been using that for two years." It was about bluing. I blue and sour in one water, with oxalic acid and aniline blue. I rinse in warm water after the bluing. It costs a little more for the bluing, because you waste a certain amount of the bluing, but when your clothes come out you have no acid in them, and I find that I get a more uniform color—have no streaks. That is my secret.

Mr. F. H. Walker: Another thing. I mix my bluing in a large sixty-gallon tank, so that when it is put in the washer it is put in by the bucket full, and I make the amount uniform to the load. The color is then uniform from one week's end to the other—never have green blue and all the other colors of the rainbow.

Mr. J. W. Bowman: The gentleman said he agreed with Mr. Shaw that the heat got the dirt out. I do not think that it is the heat that gets the dirt out. I used to have an idea the harder you boiled the clothes the better the result would be. I found that idea pretty expensive, and I did not get better results either. I think if you fill your washer with eight or ten inches of water and turn on sufficient steam to keep the goods boiling you are doing an injustice to the goods. You are not rubbing them.

The idea is to get sufficient water in there for the clothes to rub together and eradicate the dirt. It is not the heat that gets the dirt out, but it is the rubbing. It depends on the way you load and charge your machine. If your water is sufficiently warm, as warm as a woman uses to wash by hand, and you get your machine properly charged and let it run thirty minutes, you will find that your clothes are cleaner than if you have but six to ten inches of water and you boil them hard, and you have not done the clothes near the injury. My idea of washing is this: To do it quickly and to pipe your machine so you can fill and empty quickly; use just sufficient water to wet the goods; do not have the machine running too fast, so that you pick the goods up and turn them over quickly, but run sufficiently slow so that they will rub together every time they fall. Then if the water is properly broken it will naturally rub the dirt out. The same thing will hold good in rinsing. If you want to rinse them thoroughly do not charge your machine top full of water, but just sufficient for the goods to run together and rub out the soap. Then in your second hot rinse use your oxalic acid, and after that you can blue to suit yourself. I think the trouble in the washing process is that too much water is used and the goods do not get enough rubbing

Mr. J. D. Frazee: I do not know whether I understood Mr. Bowman or not. Do you run the machine so the goods are carried up and fall down?

Mr. J. W. Bowman: The machine is only run so fast as to let the goods be rubbing all the time.

Mr. J. D. Frazee: I believe in carrying the goods to the top of the machine and dropping them. I think it is the dropping of the goods into the water, forcing the water through the material, that takes the dirt out.

Mr. J. W. Bowman: It certainly is to a certain extent. The lifting up and dropping down is all the

rubbing that is to be gotten out of a washing machine, such as we use in a laundry. The amount of water in the machine will make a difference in the amount of the fall.

Mr. J. J. Van Nort: I would like to ask you what speed you run your machines at.

Mr. J. W. Bowman: I do not remember exactly, but it is not very fast. I think about 170.

Mr. W. W. Crothers: I would like to ask some what he uses sour for.

Mr. J. C. Anthony, of Marion, Ohio: I would like to know how much bleach to use and how much oxalic acid, or any other kind of sour.

Mr. W. M. Armstrong: In bleaching clothes we use an active powerful agent. We use some acid to neutralize that bleach. No matter what kind of bleach you use you use the same chemicals, and it has the same effect. You cannot blue your clothes well unless you use a sour. We use two ounces of oxalic acid to about eighty shirts. We buy it in the crystal in the barrel. We put about two ounces in a bucket of hot water, so it dissolves quickly, and then throw it in the machine and run it about ten minutes. We make a ten-gallon jar of bleach and use about three pounds of chloride of lime, and use a quarter of that liquid, after it settles, to every eighty shirts.

Mr. J. J. Van Nort: I think we use about five ounces of acetic acid to sour a load of 100 shirts.

Mr. J. F. Beck: I use oxalic acid for the reason that I think it neutralizes the iron in the water that we use. I never knew oxalic acid to fail, while I believe that acetic acid sometimes does, not having the proper qualities for souring purposes.

Mr. J. E. Kelso: I would like to ask if any gentleman present washes without boiling in the machine, and if so with what result.

The President: Is there any gentleman here who washes without getting the suds up to the boiling point? It does not seem to be a popular way of washing.

Mr. Kelso: We wash ten minutes in the first hot suds, ten minutes in the second hot suds and thirty minutes in the third hot suds; then give the clothes a hot rinse and a hot sour; use oxalic acid, and then blue in cold water. I could not say what the temperature of the hot water is, but less than 200 degrees. In the second rinse we put in the sour and in the third put in the blue. We run those six minutes each. We use about four ounces of oxalic acid to sixty-five shirts.

Mr. Royce: I have frequently come across laundrymen's circulars in which it was stated, "positively no bleach used." The gentlemen who have spoken here today have owned up to the fact that they do use bleach. I am surprised. It seems to me there must be some of the fellows here who do not use it. (Laughter). Let them tell us how they manage to get along and do the work without bleach.

Mr. Beck: It seems to me this might be divided under two heads, that of washing shirts, and that of washing collars and cuffs. I would be in favor of Mr. Kelso's method for washing shirts, but I would not for washing collars and cuffs. In answer to Mr. Royce, I do not bleach shirts but I do bleach collars and cuffs. We begin with cold water. On collars and cuffs the soil is on the surface of the goods, and when the starch is loosened up you soon get the soil out.

Mr. Kelso: We wash collars and cuffs the same as shirts, right through. We have experimented with the shirts of customers to see how long they would last, by marking them with the date when they were brought to the laundry new for the first wash. We have some very good records. We do not make a general practice of it, because it is not a profitable thing to do. Sometimes

they do not last over six months, and sometimes they last a year.

The President: We have a system that we put into practice some little time ago. When we get a new shirt and collar the first time, the date is marked on them, and that is something that we can show the customer when he makes a complaint.

Mr. Kelso: That is a good idea; but you ought to have the customer sign a contract not to take them to any other laundry.

The President: The customer may claim that the collar is but a few weeks old, but if that date is six months back that is positive proof that he is mistaken.

Mr. Cummings: I would like to hear from our president as to his method of washing.

The President: I am afraid you will have to excuse me. I have not been in the washing room of the Star Laundry for a long time. As some one intimated awhile ago, processes change. There is one little thing that I could say in reference to economy that we adopted a little while ago. It is not a very important phase, still it is of some importance to us, and it may be to you. Of course we all waste a great deal of hot water, running it from th washing machines into the sewer. We put in a sort of boiler, you might call it a heater, wherein we run the hot water from the washing machine; and we found that we could raise the temperature somewhere about twenty-five or thirty degrees in the winter time, and probably about fifteen to eighteen degrees when the water is as warm as it is now. This arrangement, as nearly as we can figure, saves us about a ton of coal a week.

Mr. Anthony: I always supposed that to allow oxalic acid to remain in the goods was more injurious than any bleach would be. We use acetic acid which passes off by the heating of it. Oxalic acid will stay in the goods unless it is rinsed out, and it is made perhaps a hundredfold stronger by the application of heat.

Mr. Cummings: I have been experimenting, and I find that the more I experiment the less I know. For instance, I had occasion to use some muriatic acid, and as to the results, they were very gratifying in one particular and very discouraging in another. I took four ounces of muriatic acid to one gallon of water, and I placed a piece of cloth in it and allowed it to remain there for twenty-four hours and pinned it up on the wall. Before I put this in the acid I tore off a piece, so that I had one piece to show what it was before it went into the acid and the other to show what it was after. After it had dried on the wall I took it down and I could not see any difference in the strength of the two. So we took four ounces to an eighty shirt washer and tried it. One bar of shirts was starched and hung some time before they went into the dry room and they came out very nice. The next bar that went up was starched and quickly went into the dry room. The result was that we had to pay for that bar of shirts. I was dumbfounded when I saw the result of my experiment. The fact was that in the case of the bar that stood longest the acid had evaporated before it went into the dry room. The shirts that were starched and quickly sent into the dry room were burnt up. I bought a book on chemistry to see if I could find what the different chemical actions were. We are using now one-fourth ounce oxalic acid to a pail of water to eighty shirts, and we get as good a result as when we used an ounce and a half for the same number of shirts, and I think it is much better for the shirts. We buy our bleach.

THE WAGON SYSTEM.

BY C. I. GOODHART OF CHICAGO.

Having been requested to write an essay on the subject of "Wagon System," I concluded that to give a minute description of what I consider a complete wagon system,

would be more acceptable than any general talk. If you find this too long and tedious it is because omitting or shortening in any way would leave the explanation incomplete.

Almost every line of business conducted at the present time, uses wagons either directly or indirectly for delivering their goods. Every article, however small, which is utilized by the mercantile trade is carried by a wagon. The grocer delivers his goods to customers, and for this purpose uses a wagon, as does also the butcher, baker, hardware and dry goods dealers and every other merchant, and whether they own wagons or not, their goods are delivered, and by a wagon.

In the laundry business a wagon is, with a few exceptions, one of the essential appliances necessary to the equipment of a first-class laundry, and where is the laundryman who considers himself prosperous or conversant with his business unless he has a complete wagon system? To attempt to do a call and delivery laundry business without a wagon system would be like trying to iron without heat. There can be no success in any business unless it is conducted systematically. Of course all systems are not alike. That which would be a success under certain conditions, might prove to be an entire failure were some of the conditions changed. If we should have a wagon system, which of the many shall we adopt?

The laundry wagon calls in all parts of the city to collect packages, as well as to deliver, and any system which would tend to shorten the route, gain time and prevent mistakes would be the most desirable.

The first step is to select a neat, attractive and well made wagon. Having it neat and attractive is an advertisement, and well made renders it more durable, and reduces the expense of its maintenance.

The selection of the horse and harness are of equal importance, and to keep the horse clean, the harness and

wagon always tidy and in good repair are pertinent to the business.

We are judged by our surroundings, and if we can establish the fact that our external appearance cannot be excelled, the public will conclude that our work also is unequaled.

No doubt all have seen in the streets a laundry wagon the name on which was scarce discernible, paint all worn off, wheels dished, tires loose, spokes rattling, shafts tied with twine to a worn-out harness, horse which had probably at one time been as good as all wool a yard wide, but must have been washed with flannel soap, as his hide was so shrunken as to permit the hanging of one's hat upon any of his ribs. Will this turn-out attract new trade?

Not only for an advertisement should the horse be well fed, and regularly and properly attended, but for the sake of humanity in general. Too often are the laundrymen as a class forgetful and careless in feeding the proper kinds, qualities and quantities of food, and at the proper intervals, to their faithful servants. These are some of the preliminary steps to a complete wagon system which require attention.

Attention should next be directed to the different routes:

One laundryman entrusts his inexperienced driver with the entire wagon system. In this instance the driver is required to remember each customer's name and address, the correct day on which he is expected to call for and deliver the package, and also the customer's indebtedness to the firm. If the driver dies or forgets to attend to the business the following day, the laundryman meekly awaits the kindness of the patron to call and inform the new driver where to call for the next package, at the same time the patron frequently forgetting to pay for the package delivered the week previous.

Under his so-called wagon system, the laundryman runs the risk, not only of losing the customers' patronage entirely, but also of losing the amounts due from the week previous, since the laundrymen have not mutually conformed to a strictly C. O. D. system.

Why need the laundryman depend wholly on the driver? Why not have a wagon system completely under his own control and management? Why not the laundryman acquaint himself with the entire list of his patrons and arrange them systematically according to street and number? In this case the laundryman, instead of depending on the driver, relies upon himself and knows exactly upon whom the driver calls; can tell exactly the length of time required to complete the route, and if for any particular reason, the driver should be wanted to return to the laundry before his trip is completed, he may be dispatched any such message immediately, for with such a system it is readily determined about the time he will be at a given address.

With this system each driver is assigned a certain route. For his benefit the customers' names and addresses upon whom he calls for laundry, are arranged systematically according to street and number in a book called a route book, to be used entirely for his purpose. Those customers who wish their laundry to be collected Monday a. m. are entered in the route book for Monday morning. These names constitute the trip for Monday a. m. Those to be called for Monday p. m., are entered for Monday afternoon, and these constitute the trip for Monday p. m., etc., throughout the week. On Saturday preceding the week the regular calls are to be made, the names and addresses are copied from the route book upon blank lists. The lists for each trip being tied together and marked on the back, the number of the trip and to which driver it belongs is indicated by the route book.

The lists are now ready to be given to the driver, that that he may call for laundry.

Monday morning he calls upon the first customer his trip indicates. If he procures the bundle he ties the list securely to the package, places it in his wagon, and proceeds to the next customer. If there is no one at home at this address, or if the customer has no laundry for that week, but requests him to call in the afternoon, the next morning, or any special time, he marks his list accordingly and places this list on the bottom of the trip and proceeds to the next customer. And so he continues until his trip for Monday morning is completed.

If a customer has changed laundries or has any complaint or special request to make the driver writes any such message on the face of a list accompanied by the name and address of the complainant and places this list also on the bottom of the regular trip.

Having returned to the laundry he first delivers his bundles to the marking room where he places them in a box assigned to him for his especial benefit and numbered with a number to correspond to his number as a driver. If perchance the markers find a package without a list or improperly tied, by referring to the number of the box from which it was taken, it can be readily ascertained by whom the bundle was obtained and the corresponding driver may be called upon to identify the package and be corrected for such carelessness.

The lists he has returned from his regular trip are referred to the office for inspection. After the trip has been inspected all lists marked Monday p. m., Tuesday a.m., etc., are grouped according to their respective marks and placed in rotation in the regular trip for the stated time. If there are any remaining lists from the morning's regular trip these are then tied together and marked on the back the number of the trip and by which driver they were returned, then laid aside for use on the follow-

ing Saturday when they may be utilized in making out the regular trip for the next week.

The driver continues to make his regular trips in this manner until Wednesday, when the packages for which he called on the first trip Monday are laundered ready to be delivered. In the meantime, the markers have opened and listed these packages and have sent the lists to the office to be recorded. There they are figured and assorted. The branch office lists being assorted according to their respective numbers and the lists for the regular customers being assorted alphabetically. Each branch has a book devoted entirely to itself and the names and amounts iudicated by the lists are entered weekly in this book. Each name being given a number in the book according to the rotation in which it is copied, and a duplicate of this number is also placed in the upper left-hand corner of the list in question, to assist in checking the bundle on its delivery, for when these parcels are delivered the initials of the driver by whom they are delivered are prefixed to each name in the book, thereby the driver becoming wholly responsible for the safe and correct delivery of all such packages.

The accounts of the regular customers are recorded in a book called The Record, which is arranged in encyclopedical form, there being two lines devoted to a customer —one line for his name and one for his address. The former line is called the debit and the latter the credit line. The space to the right of the name and address is ruled into one-half inch spaces by perpendicular lines, each space to contain the account of the customer one week. There being fifty-two of these spaces, writing the name and address once will suffice for one year. The year is placed at the top of the left-hand page. Since each box suffices for one week, the corresponding date is indicated at the top of the page directly above the perpendicular tier. After the names, addresses and amounts are recorded

the lists are then sent to the assorting room, where the packages are completed ready for the driver to assort and deliver.

Before placing the laundered packages in his wagon the driver assorts them on shelves, arranged especially for this work, in the same rotation as he found his lists assorted in the regular trip. The bookkeeper then records these names, addresses and amounts in a regular delivery book made especially for the driver. The book is so ruled as to contain the name, address, the amount to be collected, the amount paid, and the amount charged. The packages are then placed in the wagon in the regular rotation; the last bundle recorded in the delivery book being placed in the wagon first so that in delivering them to a customer from the wagon they may be delivered as indicated by the delivery book.

If the customer pays the full amount of the account, if only a partial payment is made, if the entire amount is charged, or if the parcel is delivered and there is no one at home to receive it he marks his book according to his disposal of the package. If he returns a parcel to be delivered at any special time he marks the requested time on the top of the package, and at the same time marks in his book that the parcel was returned.

The first bundle to a new customer is always C. O. D., and every second bundle thereafter unless a patron wishes a monthly account, which may be granted by his calling a the office and making satisfactory arrangements for a monthly settlement.

The driver's delivery book as well as the list is always marked whether or not the bundle is C. O. D. In every instance the driver is supposed to collect, excepting when the customer has a monthly account. If he leaves a C. O. D. package the amount is charged to him and deducted from his salary, one week's salary being always retained to cover such indebtedness. Under this system no bonds

are required from a driver and the amount retained has always proven to be more than sufficient to cancel any such indebtedness. If an extra call is received either by mail, telephone or otherwise a special list is made out to be called for at a stated time. If not a transient, but a permanent customer, his name is entered in its respective order in the route book and his package is thereafter called for regularly.

The driver having completed his first delivery, returns to the office where the amounts on his route sheet are summarized to determine the total amount of his receipts for that trip. Having taken his book to the house each time he endeavored to deliver a parcel and marked his book exactly as he disposed of the package, his cash must be correct. His route sheets are then receipted for their amount and he is again ready to deliver his following trips in like manner until the first week's labors are ended.

After the driver's receipts are received the bookkeeper credits on the record the amount paid by the respective patrons. If the entire amount is paid the account is balanced. If only a partial payment is made the amount paid is credited and the difference between the debit and the credit is carried forward as a balance and if the amount is not paid before the next entry it will be added to the next debit recorded, the list will be stamped C. O. D. or charged as the case may be and the regular rule will attend its delivery.

By this system the following are some of the results which may be obtained:

By having your rigs at all times neat, clean and showy you are attracting new trade.

Bundles will be called for and delivered on time every day in the year.

Patrons will not be disappointed.

They will be pleased.

Drivers will not be short in their accounts.

Drivers will not own any trade to transfer to some other laundry.

Business will increase, and if were not for the 468 other little annoyances to which laundrymen are continually subjected, that cause a flow of large-sized language, having a complete wagon system would in a great many instances be our first step towards being angels.

The President: The subject of Mr. Goodhart's paper is now before you for discussion.

Mr. Selz: In our city there are four or five laundries where the driver furnishes his own horse and wagon, and establishes his own agency, and the driver gets 50 per cent of the work. I have been bitterly opposed to doing business upon that plan. I desire to own my own route and handle my own customers. To pay 50 per cent must be a losing business. I don't think there is a laundry anywhere that can afford to pay 50 per cent upon the gross amount of the work.

We will now take up the further discussion of the wagon system. I will call on Mr. Braden of Buffalo.

Mr. Braden: We consider the wagon system in Buffalo the best that we have. It is similar to that described in Mr. Goodhart's paper. Our city is districted off into seven districts and each driver has his district and has Monday a. m. or Monday p. m. and Tuesday a. m. and Tuesday p. m. to collect laundry, and as the laundry comes in it comes in in lots. The first man in is the first man out. The men start delivering Wednesday morning. As a rule we make it a point to cover the ground every day in the week, commencing Monday. Our manager makes it a point every day to look the records over to see whether the drivers have neglected to call on certain customers on the route. The drivers have no interest in the routes. We own them ourselves. We have one man that brings us work that has an office down town. To one man we pay 35 per cent. He brings work to the laundry. That

is the only branch office outside of the regular branches that we pay over 25 per cent to.

Mr. J. D. Frazee: I would like to know if there are any more running wagons and paying 35 or 40 per cent. It is a failure in our city.

Mr. Braden: There are lots of people in Buffalo paying over 35 per cent. This one particular man that we pay 35 per cent to we sublet to. We were not able to get a proper man to run the office, were losing money on it and hated to shut it up. This man who took it is a good man, is a hustler and we give him 35 per cent. That is on Michigan street.

Mr. J. D. Frazee: Do you control that man or can he do as he pleases?

Mr. Braden: He does not interfere with our customers. We control him in this way: He rents the office of us and cannot give it up to anybody else. He owns his own horses and pays his own expenses and pays the office girl.

Mr. I. N. Williams: While the brother from Buffalo was speaking, the question of the cost of laundry work collected in wagons came up in my mind. I have made an estimate on that matter and I find that it costs me 25 per cent to collect and deliver my bundles by a wagon.

Mr. Stoer: That would be true in certain localities. We have some wagons that cost us as high as 30 per cent to run and others that cost us only 20. In reference to the commission business spoken of, of course there may be some isolated cases where the owner of the laundry controls the commission man. I know in Cleveland there have been cases where the commission man happened to see a driver coming out of a house with a nice bundle that he would go into the house and offer to give 10 or 15 per cent off in order to get the work. It is a thing, too, that grows. We have one man in the association at Cleveland who has eight of those wagons, four of them his own. He may

start out this week with a six hundred or seven hundred dollar trade and next week he may not have a hundred; it fluctuates in that way. Another man has five or six, and that is the way it is throughout the city. There are more commission wagons in the city of Cleveland than their are regular laundry wagons. I have been told that some of the Jews are going into the commission business and work the poverty racket. They go around the first week with a small basket, the second week with a baby carriage and then a three bushel basket to carry it. Laundries will give them a commission of 40 per cent and they will do anything to get the trade.

The President: In reference to what Mr. Williams has said, I will say that at our place it costs us 16 and 17 per cent to do our collecting and delivering on our wagons. The men who do the delivering have nothing to do with arranging the bundles in the baskets. That is done by the girls in the laundry, who get six or seven dollars a week, while the men cost eighteen to twenty.

Mr. Stoer: A commission wagon is also a great temptation to the regular drivers, because they are only getting ten or twelve dollars a week, while the driver of a commission wagon is earning fifteen to twenty-five dollars a week. He has to keep his own horse, but then he has him on Sundays and evenings to drive.

Mr. Braden: The matter has come up in our local organization, and it has been proposed that these commission wagon men be treated as peddlers. We will try and regulate it so that these men do not make any more than our regular drivers.

Mr. Stoer: In Cleveland, at the present time, we have almost the same membership that we had when we started in 1886, and nobody has ever fluked. We do not have over one-third of the laundries in the association. You can't get them; they are springing up everywhere, and we don't want them because they are "stinkers." We

have one large clothing house, perhaps one of the largest in the country, that is doing shirts for six cents and collars and cuffs for a cent. The work is done by a Knights of Labor laundry that has sprung up, called the Union Laundry. The Standard Laundry has agreed to meet them and deliver the work. I do not see how an organization in a large city is possible; there are so many people starting up in the business. Thirty-one laundries have changed hands in Cleveland within the last year and a half, and some have changed three or four times.

Mr. Selz: In our city we have these so-called wagons running around, and as I understand they are getting 50 per cent. They go to the barber shops, groceries and stores and establish agencies, and all they have to do is to go there and get the work. It is these men that run up the commission. Can I make money in the laundry business and pay 50 per cent? I claim not. I had an applicatien not later than last week from a young man who is very popular in our city and who is able to get considerable trade. I turned him down. I said: "No, it is against my principle." Well, he went on and complimented me and my laundry, and said he could not get work for any other laundry because I had the reputation, and all that, and he wanted to give the work to me. I said, "That is the reason I don't want you. I want to own my own trade."

Mr. Van Gorder: When I started into the laundry business about two years ago, I had several applications of the same kind before I was in business a week. I declined, and I was not in business a month before the laundrymen who had been there twelve years cut the prices in two—shirts for five cents and collars for a cent and a half and everything else at the same rate. I ran the thing a whole year at that rate. I ran my own wagon and my own business, and today I lead the business. The man who cut prices is now dead and gone and

his wife raised the shirt price back to ten cents, and for collars and cuffs two and four cents. I get two and five for collars and ten and twelve for all fancy shirts and still own my own wagons, and I gained by so doing.

THE CASH SYSTEM.

BY JOHN OTTE, OF GRAND RAPIDS, MICH.

The method of doing a cash business, getting our pay for labor as soon as performed, is what we wish to discuss under this heading.

From time immemorial it has been customary among nations and individuals to do business on credit, "a future time to pay in" plan; but as we progress—and reforms are the order of the day—why not do business on the cash, or "the immediate turning into money plan." I am sure the laundry business needs this more than any other. Why? Let us see. Two-thirds of the expenditures (I am speaking of the establishments that turn out first-class work and pay living wages to their help) are paid for labor, and this is cash and no discount. The other third is for materials, etc., and mostly paid out in cash; consequently we pay cash for everything used and consumed in our business, and we do so each week that we do business. We pay it out in large sums, and what we receive comes to us in amounts not averaging over twenty-five cents each.

It is our experience that in giving credit the expense including books, stationery, postage, bookkeeper and the losses from bad accounts, was 3 per cent. When we figure the usual rate of interest on our investment, which we certainly should do, making a reasonable allowance for your own services and all other expenses, I cannot bring the net profits of a well-conducted laundry business to exceed 15 per cent. Suppose you do a business of $10,000 a year, your profits would amount to $1,500.

By doing this business on the cash plan you can save 3 per cent; in other words you need not do so much business and yet make the same profits. You can afford to let $1,500 of your customers who want credit go to your competitor and you will be just as well off. The secret of success is not so much in bigness as in soundness.

These are my reasons for advocating the cash system and its adoption by every laundryman. It can be done. We have the proof of it in our own city of Grand Rapids. Our laundrymen, comprehending the benefits to be derived from the system, adopted it nearly a year ago. A local organization, established some six months previous, was in a great measure instrumental in bringing it about. At the present writing I regret to say that the Grand Rapids Laundrymen's Association does not exist. I had the honor of being its secretary; and I will say that for the year and a half that it existed we spent many pleasant hours together, and accomplished much that was and still is of great good to us all. The ex-members still believe in and do a cash business. What was the cause of our separation? A new laundry started and would not join the association. Why? I will tell you what they said: "We do not think it is right to demand cash on delivery of all, and we will let our customers, such as we consider good, have their own way about it, and if they wish to trade with us we will furnish them with a $5 coupon book and charge it to them, and they can pay us when it is used up." They were new in the business and we tried to tell them the experience of all laundrymen, but they would not listen. They wanted the experience themselves and they are getting it. Of course, the main reason for their not joining was that by remaining outside they could let us live up to our rules and they could do as they pleased and possibly get a footing that way.

It is not the object of this article to censure any one. I am simply stating facts so that you may judge for your-

selves. Certain members of the association soon began to violate the rules and regulations of the association. They were called down and promised to do differently, and we supposed everything was again smooth, but not so. Every now and then we would hear of transgressions; and the American Steam Laundry notified the different members that it would no longer be bound by laws which it had tried to live up to while others were daily disregarding them. It was thus that the association came to an end. As nearly as I know we still adhere to the cash part of the agreement, though not under obligations to one another to keep it up, it being a good thing and the best part of all. We will not discontinue this. Any laundry that turns out first-class work, work that is in demand, can and ought to do a cash business. What it requires is a good deal of nerve, good work, and confidence in yourself. "We are too modest to make any claims," but will continue to do work for cash until we discover that the public wants credit more than quality. When that time comes we shall give it to them, but now it is quality for cash.

When we inaugurated the system we issued a circular which read as follows:

"DEAR SIR—Allow us to inform you that the rapidly increasing number of accounts, and the difficult way of keeping record and collecting the same, necessitates us to adopt the cash system, and from this date all packages must be paid for when delivered. So far as many of our customers are concerned we regret to be obliged to adopt this plan, but as we cannot discriminate we trust they will appreciate our position.

"N.B.—For the convenience of customers we have issued commutation tickets in denominations of $2.50 and $5, which may be had at our office, or from drivers, at a discount of 5 per cent. These can be left at home, and

when a bundle is delivered the proper amount will be punched out."

Many customers will avail themselves of this convenience and save the discount, but most of them will pay as the goods are delivered. In this way you will be doing a cash business before you know it and without very great difficulty.

Certainly there will be some who will find fault and protest, but be firm in your decision, and kindly explain in a business way what compelled you to do it. Do not discriminate in favor of any one; give all good work and prompt service, and soon your competitor who trusts and gets trusted will not be in it. You are now on the road to success, for you have taken hold of a true business principle, one that cannot fail.

What will be your gain? You will have the reputation of daring to do. You will prosper, for you save in expenses. You can promptly pay your help, and they will uphold and bless you. You will have money to buy with, money to bargain with, money to discount with, and when depressions come you will be in much better shape to face them. Such is my view of doing a cash business.

At the conclusion of the reading of Mr. Otte's paper calls were made for Mr. I. N. Williams, of Lexington, Ky.

Mr. I. N. Williams: I am glad you give me the applause in the beginning, because I will not get it in the end.

We have in Lexington a practical working of the cash system, and it began the first of November three years ago. We find it the easiest thing in the world to work. We simply met together and made an agreement that we would do a cash business and we did it. It is true there were some kicks, but they were from people who did not pay much when you credited them, consequently it did not make much differemce if they did kick.

The way we proceeded was this: We had an attorney draw up an agreement by which our three laundries agreed to forfeit one hundred dollars for any violation of the contract. The contract provided that we were to do a strictly cash business Our agreement has been lived up to.

We had a new laundry start in our place during the past year. He thought he saw an opportunity to make a start by doing a credit business. I offered to give him a list of twenty-five or thirty names of my customers whom I thought would be glad to get credit. He did not take it. He is trying to do a credit business, but I do not think he is growing very much under it. I think he is suffering in abuse from those to whom he gives credit to such a percentage of his trade that it will be the ruin of his business.

In starting up the business we had no books, no commutation tickets, or anything of the kind. We simply went to the man's house with the bundle, in the regular course of business, and if no one was prepared to pay for it, we had two tickets to leave at the house. The first was simply a notice that the driver had called to deliver a bundle and found no one prepared to pay for it, and that the driver would call the second time, and if no one was prepared to pay for it another notice was left saying that the driver had called the second time and found no one prepared to pay for it and that he would find the bundle in the office. There were a few, as I said, who kicked, but it was worked very satisfactorily. We are well pleased with its working. (Applause.)

Mr. J. J. Van Nort: We are trying the cash system at Scranton, but I have been at home only three days since we started it. We use a small coupon book, one cent coupons, lithographed, bound up in blocks, $1, $2, and $5, which we sell to customers at a discount of 5 per cent.

The President: I am requested to ask Mr. Otte how track is kept of the money where the amount of the package is punched out of the ticket.

Mr. A. Otte: When the tickets are sold the party who buys the ticket is credited with the amount paid; and as the goods are delivered the driver punches the amount on the ticket and the party is charged up with that amount. When the ticket is used up the customer is notified. A great many of the customers leave their tickets with us in the office and the bookkeeper has charge of them. We have very little trouble so far as kicks are concerned.

Mr. I. N. Williams: In regard to tickets we do not use any at all. We have customers who prefer to pay cash in advance, and we open an account with them. We give those who pay in advance a discount of 2 per cent.

I don't think we can learn a great deal from Chinamen; but with the Chinaman it is "no money, no washee." If the Chinaman can get cash for the character of work he is doing, why cannot laundrymen do it? (Applause).

Mr. Welch: I have had an experience of nine years with the cash system in another line of business, the ice business, in the city of Buffalo. We organized in 1885 what we call the Ice Exchange. We black-listed people who went the rounds of the different ice companies, buying on credit and not paying. The Laundrymen's Exchange proposes to do the same thing. We have adopted a coupon book. Each book is numbered and we have a register of the number in the office. The system has been a great saving of money to the ice man. There is no reason why laundrymen cannot do the same thing.

Mr. A. W. Allen: We use in our business in Toronto tickets of different denominations, 1 cent, 5 cents, 10 cents and so on, which we put into packages of different sizes, and we sell these tickets at the office, or the driver sells them at a discount of 5 per cent. The packages going out of the office are charged to the driver, and

when he comes back he must return the money or the tickets for the full value of his load, or the packages. The tickets are signed by the bookkeeper, and they cannot well be forged. We know when they come back that they are the same tickets that went out. We have been using the same ticket for over five years. We have destroyed some and renewed them along. I am glad to say we have made a success of it, being in the business about eight years, starting on a small scale, doing an exclusively cash business and now doing an exclusively cash business of from fourteen to sixteen hundred dollars a week, and we never deliver a dollar's worth of work until it is paid for. (Applause.)

Mr. Braden: How do you manage with contract work?

Mr. A. W. Allen: What we call contract work we collect for every Monday morning. We have no accounts except for private contract work. I mean by that, hotel and railroad work, and those accounts we render on Monday morning and collect not later than Tuesday morning. We call on Tuesday morning, and if not paid we go every morning and if necessary, twice a day, until we get the bill. (Applause.)

Mr. G. Chiera: In the city of Toronto there are about fifteen laundries, as far as my recollection goes, and I think they all collect cash on delivery.

The President: There are botherations and expenses connected with the credit system that seem to be unavoidable; will some one tell us something of them. I think we would like to hear it.

Mr. S. Welch: By the use of coupon books we save the salaries of two $400 clerks, or $800 a year.

Mr. C. A. Royce: I am afraid it would be a very unpopular thing to say anything on the other side of this question. There are two sides to every question, and I think there must be some one here who would be able to

speak upon the other side, that is to say, the merits of the credit system. I think I can see some disadvantages that would result from the cash system. Supposing our machinery men should demand cash when we want anything in the line of machinery. I can imagine that sometimes it would put us to considerable inconvenience. The same is true with supplies. Then there is the fact that the great bulk of the business of the country is adjusted to the credit system. I should like to hear something on the merits of the credit system.

The President: If I may be allowed a remark—I think that the amount of money on the books of the members of this association would be four times the amount of money that they owe to the machinery men. (Applause.)

Mr. I. N. Williams: I would say further in favor of the cash system that it would enable us to pay cash for our purchases and get 10 per cent discount. (Laughter.)

Mr. Kelso: What is the custom in the cash system of dealing with agents?

Mr. A. W. Allen: We have a number of agencies in Toronto and we allow them 20 per cent off the regular list. When we deliver to the agent we add up the different items, deduct twenty per cent and the agent pays the amount of the bill to the driver. I think all the laundrymen in Toronto do that way.

Mr. G. Chiera: I support that statement.

Mr. Kelso: How do you manage when you ship out of the city?

Mr. A. W. Allen: We have fifty odd agents or branches all over Canada and we send to all of those C. O. D. (Laughter.)

The President: I think it would be interesting if we could hear some opposition to this theory. It may be that a good many members when they return home may want to try the cash system. I would like to know if

any one here has tried the cash system and been compelled to go back to the credit system.

Mr. C. A. Royce: It seems to me that to successfully establish the cash system would require unanimity, and I have known places where that unanimity was impossible to get. I should think that was the situation in a majority of the places represented here, and therefore a majority of the members would be more interested in some system of credit whereby business could be done without serious losses.

Mr. A. W. Allen: I cannot agree with the last speaker, that it is necessary for all laundries to combine. I commenced business in Toronto, in 1886, and there were perhaps twelve or fourteen laundries all giving credit until recently, while I was doing an exclusively cash business. I think that is one of the reasons of my success. I will give you an instance. Two years ago I bought a laundry that was doing a part cash and part credit business. I carried it on the same way and the public did not know that I was the owner. I found that customers who ran bills and did not pay them at this laundry, when they could get no more credit, would take their work to my cash laundry to get it done. I think you would lose fewer customers by the cash system than you would the other way. (Applause.)

The President: I will ask Mr. Warren to give us his experience with the cash system.

Mr. Warren: We are getting along very nicely and have very little trouble. Two new laundries started in our place last spring and they expected to get our trade by doing a credit business. I do not think we have lost any trade and we are really better off than if we did a credit business.

Mr. Goodhart: There was one year that we did business in Chicago that we lost $1,500. We trusted everybody. We finally concluded that we would get as nearly

as we could to a cash business. Every second package we sent C. O. D. The first bundle of a new customer is always C. O. D. After that we leave one package at his house and put the balance on the books, no matter what the amount is. With our branch offices and hotels we have a weekly account ending on Saturday, and they are expected to pay on the following Monday. We have often had to let it run into the second week in order to collect, but have shut down on that and hold the second's week's bundle if the bill for the previous week has not been paid by Wednesday. This has caused a little trouble once in awhile, the customer sending a lawyer to demand the package, but we have never been sued. They invariably come up and pay the amount of the bill. That rule has been a great saving to us in our business, our losses not being one-half of one per cent.

Mr. Kelso: It requires backbone to carry out the cash system, and we in Rochester are a little lacking in backbone. A little over a year ago in our association we adopted what we call the deadbeat system. The secretary called on each laundry once a month and got a list of the names of such parties as had been dealing with the laundry and quit, leaving bills of any amount unpaid. This list was sent by the secretary to each of the laundries in the city. When such party applied for credit he would be told you owe so and so for laundry work so much and we cannot trust you. It is not necessary for our secretary to go around oftener than once in two months, and he gets very few names.

Mr. Selz: I am very much enthused over the cash system. In my now thirteen years of experience in the laundry business I have over six thousand dollars on my books of bad debts. In my younger days in the business I was very careless in regard to my accounts. I was anxious to do business and did work for everybody whether they had money or not. In late years I have

given greater attention to my accounts and have not lost as much money as previously, but have lost money just the same. I find that where you collect weekly, the accounts not being so large, there is less kicking. I think when I go home I will try to put the cash system into operation.

MANGLE WORK.

BY T. A. SELZ, OF DAYTON, OHIO.

With much trepidation and reluctance I respond to the earnest solicitation of our distinguished president to say something on the subject of mangle work. I feel a great delicacy of speaking upon this important subject, for the sole reason that there are older and larger laundries whose representatives are better qualified to treat the theme more fully and ably than I.

I beg to explain our method of mangle work in language free of rhetorical flourishes, sincerely hoping that I may say something of interest and profit.

To begin with, we wash and bleach in one suds. The soiled linen is placed in the cylinder containing six inches of water, to which is added about three gallons of hot liquid soap and a teacup of bleach. Then the suds is brought to lukewarm temperature, running ten minutes. Steam is then turned on and brought to a boil. In this we run about twenty minutes. Naturally soap is added at times to keep up a good suds. After the suds is run off, we commence with a hot rinse of five minutes, immediately followed by two cold rinses. In the last rinse we blue. We run in extractor from five to ten minutes.

The work is then sent down stairs to be shaken out and ironed. We run four to five minutes in the shaker after which they are straightened out. Five girls are employed on the mangle, two to feed and three catch and

fold. The work is run through but once with but few exceptions, which is as follows: Roller and new towels, counterpanes, and pillow cases; these we run through twice.

We carry from fifty to sixty-five pounds of steam in cylinder. We run mostly in separate lots, count in and out, with very few exceptions.

I beg to introduce some information as to the weight of linens when soiled, washed and thoroughly wrung and ironed. On Thursday morning of last week, I found 3,003 pieces, consisting of 747 towels, 26 aprons, 317 sheets, 336 pillow cases, 68 table cloths, 1,492 napkins, and 17 spreads, after thoroughly wrung, to weigh 1,377 pounds; when ironed 927 pounds, the amount of water absorbed 450 pounds, or about 33¾ pounds to the hundred. This same work weighed 984 pounds when soiled, showing a loss of 57 pounds or nearly 6 pounds to the hundred.

The majority of our mangle work must be done on short order, only allowing us from two to five hours to perform the work. We are compelled often to do the work in less time. This, in brief, tells my experience of mangle work.

Mr. Armstrong: Mr. Selz says he puts soap in the bleach. I would like to ask him if the bleach does not kill soap, and if it does why does he mix the two?

Mr. Selz: We use chlorozone. I think before we used bleach that we did not get as good results. It seems to cut the grease and prevent black specks.

The President: I should like to hear something said on the matter of wringing. Our friend, Mr. Selz, touched on that subject just a little. We all know that many laundrymen have spent money buying additional mangles when all they needed was another wringer. It is a much simpler question than washing; at the same time it should be done properly as well as anything else. I remember making some experiments some time ago, and about the

best wringing that I found was equivalent to taking fifty pounds after they are wrung and then weighing them after they are thoroughly ironed. They should weigh about thirty-two pounds. It is very essential that mangle work should be properly wrung as well as anything else.

Mr. Crawford: I would like to ask in regard to prices for mangle work.

Mr. Selz: We get from forty cents to two dollars a hundred. I have never figured up the cost.

The President: In reference to that I would like to say that some time ago when I made this other experiment I made some figures in reference to the cost of mangle work. I have forgotten them. I think we figured on sheets, pillow-cases, towels, table-cloths and napkins. As I remember it the relative cost of napkins and sheets was seventeen cents for napkins and $2.65 a hundred for sheets.

Mr. Speare: I am very much interested in the flat work question, and I have felt for some years that this association did not give enough attention to that question. It is a matter of comparatively recent growth. The mangle of a few years ago was a crude affair compared with the mangles on the market today. The growth in the machinery line, so far as mangles are concerned, has been very rapid. Laundrymen who have placed the new and improved mangles in their laundries are looking around to find work for them. Most laundries have mangles much larger than they need for the amount of flat work they are doing, and their next experience is that they have got to get a new mangle to do the flat work which they have taken in to accommodate the large mangle, and it seems to me it is a great assistance in obtaining starch work.

The president by request read the following price-list for mangle work agreed upon by the Laundrymen's Association of Rochester:

Towels and napkins, 300 pieces per week or less, in lots not less than three dozen, $1 per hundred; 300 to 500 pieces per week in lots not less than three dozen, 65 cents per hundred; 500 to 1,000 per week, 50 cents per one hundred; 1,000 pieces or over per week, 35 cents per one hundred. Roller towels and pillow slips, $2, $1.25, $1 and 75 cents, according to the number of pieces. Table covers, sheets, aprons, blankets and counterpanes, $4 per one hundred, $2.50 per one hundred, $2 per one hundred, $1.50 per one hundred, according to the number of the lot as above read. Barbers' towels, three dozen or less, each lot one cent each. Three dozen to one hundred, each lot three-quarters of a cent each. Over one hundred, each lot one-half cent each.

EMPLOYE'S CONTRACT AND DRIVER'S BOND.

Through the kindness of one of the leading laundry supply houses we are enabled to present to our readers two forms tha the said firm had their lawyer prepare especially for the laundry trade.

EMPLOYE'S CONTRACT

Articles of Agreement, Made and entered into this _____ day of _____ A. D., 189 , by and between _____

and _____ of the City of _____

County of _____ State of _____

WHEREAS, the said _____ are the owners and operators of a certain laundry plant and are about to employ the said _____ in and about said laundry, and in consideration of the said employment, it is agreed as follows:

The said _____ hereby employes the said _____ at a salary of _____ Dollars ($_____) per day, with the right to terminate said employment at any time.

In consideration of the said employment _____ agrees to work for the said employer at a salary of _____ dollars ($_____) per day, until said employment shall be termioated by the employer, and the said employer shall have the right to retain _____ days' salary in _____ hands as security that said employee will not leave the employment, without first having given at least six days' notice of _____ intention to leave the employment of the said employer, and upon failure to give such notice, then said employer shall retain as liquidated damages, the _____ days' salary retained by _____.

If the said _____ gives notice as above provided for, then _____ is to receive the money retained by the said employer.

WITNESS our hands and seals the day and year first above written.

_____ [SEAL]

_____ [SEAL]

_____ [SEAL]

DRIVER'S BOND

Know all men by these presents, That we [insert here the name of employee and surety] of the County of and State of are held and firmly bound unto [insert name of employer] Obligees, in the County and state aforesaid, in the penal sum of Dollars, ($) lawful money of the United States, which payment well and truly to be made and performed, we, and each of us, bind ourselves, our heirs, executors and administrators, jointly, severally and firmly by these presents.

The Condition of this Obligation is such That the above named is about to enter the employ of the said Obligees, in the capacity of a driver and collector, and will come into contact with the trade and customers of the said Obligees, and will receive for the said Obligees sums of money and other property from time to time.

NOW if the said shall faithfully account for and pay over to the said all money which may come into his hands or which he may collect or receive, for or on account, of the said Obligees, and shall also take proper care of and account for and deliver upon the order of said Obligees, all other property which may come into his possession as such driver or collector, and shall save and keep harmless the said Obligees from any and all claims, damages and expense caused to the property of the said Obligees, by his act or to the life, person or property of others, and shall not, and will not, during his said employment, and for a period of three months after the termination of his employment by said Obligees as such driver and collector, personally, or by any other means, solicit or endeavor to obtain for himself or for any other person, firm or corporation, the laundry work, custom or trade of any said customers of said Obligees. Now if the said shall personally or by any other person or means, solicit or endeavor to obtain for himself, or for any other person, firm or corporation, the laundry work custom or trade of any of the customers of the said Obligees, while in their employ or within a period of three months after the termination of his employment by said Obligees as such driver and collector, the said [insert here name of driver or collector] shall pay to the said Obligees, on demand, the sum of Dollars, ($) as liquidated and agreed damages for every one of such customers whose laundry work, custom or trade he may solicit or endeavor to obtain during the said period of three months, or while in the employment of the said Obligees, and if he shall pay all damages occasioned through him, all money and for all property coming into his hands or under his control, then this obligation to be void, otherwise to remain in full force and effect.

WITNESS our hands and seals this day of A. D., 189

[SEAL]

[SEAL]

[SEAL]

Signed, sealed and delivered in the presence of

DOWST'S LAUNDRY TABLE OF WAGES.

FOR ONE OR TWO WEEKS

	Hrs	$1.00	$1.50	$2.00	$2.50	$3.00	$3.50	$4.00	$4.50	$5.00	$5.50	$6 00
HOURS.	½	.05-6	.1¼	.1⅔	.21-12	.2½	.211-12	.3⅓	.3¾	.41-6	.47-12	.5
	1	.1⅔	.2½	.3⅓	.41-6	.5	.56-6	.6⅔	7½	.8⅓	.916	.10
	2	.3⅓	.5	.6⅔	.8⅓	.10	.11⅔	.13⅓	.15	.16⅔	.18⅓	.20
	3	.5	.7½	.10	.12½	.15	.17½	.20	.22½	.25	.27½	.30
	4	.6⅔	.10	.13⅓	.16⅔	.20	.23⅓	.26⅔	.30	.33⅓	.36⅔	.40
	5	.8⅓	.12½	.16⅔	.206-6	.25	.291-6	.33⅓	.37½	.41⅔	.455-6	.50
	6	.10	.15	.20	.25	.30	.35	.40	.45	.50	.55	.60
	7	.11⅔	.17½	.23⅓	.291-6	.35	.405-6	.46⅔	.52½	.58⅓	.641-6	.70
	8	.13⅓	.20	.26⅔	.33⅓	.40	.46⅔	.53⅓	.60	.66⅔	.78⅓	.80
	9	.15	.22½	.30	.37½	.45	.52½	.60	.67½	.75	.82½	.90
FIRST WEEK.	Days											
	1	.16⅔	.25	.33⅓	.41⅔	.50	.58⅓	.66⅔	.75	.83⅓	.91⅔	1.00
	2	.33⅓	.50	66⅔	.83⅓	1.00	1.16⅔	1.33⅓	1.50	1.66⅔	1.83⅓	2.00
	3	.60	.75	1.00	1 25	1 50	1.75	2.00	2.25	2.50	2 75	3 00
	4	.66⅔	1.00	1 33⅓	1.66⅔	2.00	2.33⅓	2.66⅔	3 00	3.33⅓	3.66⅔	4 00
	5	.83⅓	1.25	1 66⅔	2.08⅓	2.50	2.91⅔	3 33⅓	3.75	4.16⅔	4.58⅓	5 00
	6	1.00	1.50	2 00	2.50	3 00	3.50	4.00	4.50	5 00	5.50	6.00
SEC'D WEEK.	7	1.16⅔	1.75	2.33⅓	2 91⅔	3 50	4.03⅓	4.66⅔	5 25	5 83⅓	6.41⅔	7.00
	8	1.33⅓	2.00	2.66⅔	3.33⅓	4.00	4.66⅔	5.33⅓	6.00	6 66⅔	7 33⅓	8.00
	9	1 50	2.25	3 00	3.75	4.50	5.25	6.00	6 75	7 50	8 25	9 00
	10	1.66⅔	2 50	3.33⅓	4 16⅔	5.00	5 83⅓	6 66⅔	7.50	8.33⅓	9.16⅔	10 00
	11	1.83⅓	2.75	3.66⅔	4 58⅓	5 50	6 41⅔	7.33⅓	8.25	9 16⅔	10 08⅓	11 00
	12	2.00	3 00	4.00	6.00	6 00	7 00	8 00	9 00	10.00	11 00	12 00

	Hrs.	$6.50	$7.00	$7.50	$8.00	$9.00	$10	$11	$12	$13	$14	$15
HOURS.	½	.55-12	.66-6	.6¼	.6⅔	.7½	.8⅓	.91-6	.10	.106-6	.11⅔	.12½
	1	.106-6	.11⅔	.12½	.13⅓	.15	.16⅔	.18⅓	.20	.216⅔	.23⅓	.25
	2	.21⅔	.23⅓	.25	.26⅔	.30	.33⅓	.36⅔	.40	.43⅓	.46⅔	.50
	3	.82½	.35	.37½	.40	.45	.50	.55	.60	.65	.70	75
	4	.43⅓	.46⅔	.50	.53⅓	.60	.66⅔	.73⅓	.80	86⅔	.98⅓	1.00
	5	.641-6	.58⅓	.62½	.66⅔	.75	.83⅓	.91⅔	1.00	1.08⅓	1 16⅔	1 25
	6	.65	.70	.75	.80	.90	1 00	1.10	1.20	1 30	1 40	1 50
	7	.755-6	.81⅔	.87½	.93⅓	1 05	1.16⅔	1.28⅓	1 40	1 51⅔	1 63⅓	1 75
	8	.86⅔	.93⅓	1 00	1 06⅔	1 20	1.33⅓	1.46⅔	1.60	1 73⅓	1 86⅔	2 00
	9	.97½	1.05	1.12½	1.20	1 35	1.50	1 65	1.80	1.95	2.10	2.25
FIRST WEEK.	Days.											
	1	1.08⅓	1.16⅔	1 25	1.33⅓	1 50	1.66⅔	1.83⅓	2.00	2 16⅔	2.33⅓	2 50
	2	2.16⅔	2.33⅓	2.50	2.66⅔	3 00	3.33⅓	3.66⅔	4.00	4 33⅓	4.66⅔	5 00
	3	3 25	3.50	3 75	4.00	4.50	5.00	5 50	6.00	6.50	7 00	7 50
	4	4.33⅓	4 66⅔	5.00	5 33⅓	6.00	6.66⅔	7.33⅓	8 00	8 66⅔	9.33⅓	10.00
	5	5 41⅔	5.83⅓	6.25	6.66⅔	7.50	8 33⅓	9 16⅔	10.00	10.83⅓	11 66⅔	12 50
	6	6.50	7 00	7.50	8.00	9.00	10.00	11 00	12.00	13.00	14.00	15 00
SEC'D WEEK.	7	7 58⅓	8 16⅔	8.75	9.33⅓	10 50	11.66⅔	12.83⅓	14.00	15 16⅔	16 33⅓	17 50
	8	8 66⅔	9.33⅓	10 00	10 66⅔	12.00	13 33⅓	44.66⅔	16.00	17 33⅓	18 66⅔	20.00
	9	9.75	10 50	11.25	12 00	13.50	15.00	16.50	18.00	19 50	21 00	22.50
	10	10.83⅓	11.66⅔	12 50	13.33⅓	15 00	16.66⅔	18.33⅓	20.00	21.66⅔	23.33⅓	25 00
	11	11.91⅔	12.83⅓	13.75	14 66⅔	16.50	18 33⅓	20.16⅔	22 00	23 83⅓	25.66⅔	27 50
	12	13.00	14.00	15.00	16.00	18.00	20 00	22.00	24.00	26 00	28 00	30.00

LAUNDRYMEN'S NATIONAL ASSOCIATION.

The following is the constitution and by-laws of the Laundrymen's National Association.

CONSTITUTION.

ARTICLE I.

The name of this Association shall be the LAUNDRYMEN'S NATIONAL ASSOCIATION of the United States.

ARTICLE II.

The membership of this Association shall be composed of those who are actively engaged in the laundry business as proprietors or owners of laundries, in good standing.

ARTICLE III.

Laundry machinery dealers, dealers in laundry supplies and those whose business is such that they have interest in common with laundrymen, are eligible to election as associate members, such members being amenable to all the laws of this Association and are entitled to a seat upon the floor at all annual conventions, but can have no vote in the proceedings thereof, and are not eligible to office.

ARTICLE IV.

The officers of this Association shall be a President, four (4) Vice-Presidents, Secretary, Treasurer, and an Executive Committee of five (5) members.

The chairmanship of the said committee shall be vested in the member of longest service.

There shall also be a Sergeant-at-Arms to attend the door and keep order upon the floor of the conventions, this officer to be appointed and controlled by the President.

ARTICLE V.

All officers, except the Executive Committee, shall be elected by ballot, nominations to be made from the floor during the second day's session of each annual convention, and shall hold office for one year thereafter, or until the election and qualification of their successors

ARTICLE VI.

Amendments to this Constitution shall be made only by written resolution offered and read at a regular meet-

ing of the Association, and a two-thirds vote of members present and voting shall be necessary for adoption.

BY-LAWS.

SECTION I. The annual convention of this Association shall be held upon the second Monday in September of each year, and at such places as shall be designated by the Association in convention assembled. Special meetings may be called at any time by the Executive Committee. The Executive Committee shall also have power to change the date and place of the annual meeting or either of them, provided that such change be deemed advisable or necessary.

SEC. II. The order of business at annual conventions shall be as follows:

1. Reading of minutes of last convention.
2. Payment of dues.
3. Reception of and balloting upon application for membership.
4. Announcement of committees.
5. Consideration of communications.
6. Report of President.
7. Report of Executive Committee and report of Standing Committees.
8. New business.
9. Report of Special Committees.
10. Election of officers.
11. Report of out-going Secretary.
12. Report of Treasurer.
13. Installation of officers.

SEC. III. Twenty-five members shall constitute a quorum for the transaction of business.

SEC. IV. The President shall preside at all meetings of the Association. He shall appoint a Sergeant-at-Arms for each regular meeting, and all other committees not otherwise herein provided for. It shall be the duty of the Vice-Presidents, in the order of their election, to preside and act as President in case of the absence or disability of the President.

It shall be the duty of the Secretary to keep the minutes of each meeting of the Association, and of the Executive Committee; to give members due notice of regular

and special meetings; to keep a complete record of the names of the members of the Association, to collect all moneys due the Association, and to pay the same over to the Treasurer, taking his receipt therefore; he shall have charge of all books and papers of the Association at each annual convention; for the faithful performance of these duties he shall receive such compensation as may be voted by the Association at the convention at which he is elected.

It shall be the duty of the Treasurer to have custody of all moneys of the Association; he shall disburse the same only upon orders drawn by the Secretary and countersigned by the President; he shall keep, upon a suitable book, a correct account of all receipts and disbursements, make a detailed report to the Associatiom at each convention of its financial condition and at any time, upon the request of the Executive Committee; for the faithful performance of his duties, he shall give bonds of such form and amount as shall be acceptable to the Executive Committee.

All sums in excess of three hundred dollars remaining in the hands of the Treasurer after the close of each annual convention, and after all lawful debts are paid shall be turned over to the Executive Committee for investment, in the interests of the Association, and in such way and manner as the majority of the committee shall elect.

SEC. V. The Executive Committee shall have charge of all the business of the Association in the interim between conventions. They may hold meetings as often as they deem necessary for the interest of the Association. They shall duly consider all questions of grievance and other questions submitted to them by members of the Association, and in every case take such action as is agreed upon by the majority. A quorum of the Executive Committee shall be three (3) members. They shall have power to fill any vacancy in the office of the Association caused by death or disability, unless otherwise herein provided. The Secretary may draw upon the Treasurer for the actual expenses of each member of the Executive Committee incurred in attending regular or special meetings of the Committee, and pay the same over to them, taking their receipt therefor.

SEC. VI. There shall be the following Committee, consisting of three members each, appointed by the President and announced as provided in the order of business:

(*a*) Committee on Credentials. The duty of this Committee is to examine and report upon all applications for membership that may be referred to them.

(*b*) Committee on Finance. The duty of this Committee is to audit the books and the accounts of the Secretary and Treasurer, and report upon the condition to the Association.

(*c*) Committee on Resolutions, who shall take into consideration the condition of the trade, and report suitable resolutions to the Association. All resolutions proposed in convention, not immediately passed upon by the Association shall be referred to this Committee.

SEC. VII. (*a*) The membership fee for regular and associate members shall be $3, which amount must accompany the application.

(*b*) The dues shall be $3 per annum, payable in advance.

SEC. VIII. All applications for membership shall be made in writing to the Secretary, who shall announce the same in some regular or special meeting. A majority affirmative vote shall constitute an election to membership. In case objection is made to any application or applications, the same shall be referred to the Committee on Credentials.

SEC. IX. Any member whose dues are thirty days in arrears shall be notified of the fact by the Secretary, and if such dues are not paid within sixty days after such notification, such member or members shall be considered suspended, and can have no voice or vote in the meetings of the Association until all arrears are settled.

SEC. X. Whenever it is deemed advisable for the good of the trade to expel any member, or any person or persons, the same shall be made in writing, setting forth the reasons for such motion, the same to be made at some regular or special meeting of the Association. A majority vote shall expel or place upon the black list, but in case of any objection, the matter shall be referred to a special committee of three members for investigation and report.

SEC. XI. No President shall be eligible to re-election.

SEC. XII. Any officer of this Association may be removed for cause shown, by a two-thirds vote of members present and voting.

SEC. XIII. All deliberations of the Association shall be conducted according to the rules of Cushing's Manual or Parliamentary Practice.

SEC. XIV. An obligation rests upon the members of the Association to familiarize themselves with its constitution and by-laws and rules adopted for its government. All should, in so far as possible, attend all regular meetings, abide by all provisions of the Association and work heartily for its interests, aid the officers in their work in possible ways, avoid all acts and methods of business likely to prejudice the good name of the Association.

SEC. XV. These by-laws shall only be amended after the proposed amendment shall have been submitted to the Association, at some regular or special meeting. An affirmative vote of two-thirds the members present and voting shall be necessary for the adoption of such amendment.

LOCAL LAUNDRY ASSOCIATIONS.

Among the movements that have been made to benefit the trade, the forming of local associations has proved to be of great importance and as laundrymen, in contemplating such organizations, are often desirous of ascertaining the form adopted by like associations elsewhere, we herewith present the constitution and by-laws of one such association as will give a general idea on the subject and most likely be helpful to those desiring such information.

CONSTITUTION AND BY-LAWS OF THE INDIANAPOLIS LAUNDRYMEN'S ASSOCIATION.

CONSTITUTION.

INDIANAPOLIS, IND., Aug. 11, '94.

ARTICLE I.

The objects of this Association are to bring about a better acquaintance of all the persons engaged in the

laundry business in the city of Indianapolis and vicinity; to protect onrselves against non-paying customers; to adopt a uniform scale of prices and commissions, and other measures from time to time as may be of benefit to its members.

ARTICLE II.

The officers of this Association shall be a president, vice-president, secretary and treasurer. They shall be elected by ballot at the last regular meeting in August of each year, and shall require a majority of all the votes cast to constitute an election.

The term of office shall be one year, or until their successors are elected and duly qualified.

ORDER OF BUSINESS.

1. Roll call of Members.
2. Reading of Minutes.
3. Report of Special Committees.
4. Report of Standing Committees.
5. Unfinished Business.
6. New Business.
7. Remarks.
8. Adjournment.

BY-LAWS.

ARTICLE I.

The regular meeting of this Association shall be held on the second Tuesday of each month at 2:30 P. M.

ARTICLE II.

Special meetings may be called by the president, with the concurrence of two members, or shall be called by the president upon the written request of three members.

ARTICLE III.

A written or printed notice shall be sent by the secretary to each member at least one day in advance of all meetings, provided however, that a special meeting may be called forthwith, as provided in article second of these by-laws by personal notification of each member.

ARTICLE IV.

SEC. 1. It shall be the duty of the president to preside at all meetings, to preserve order, put all questions to vote, decide all questions of order, subject to an appeal

by the body. He shall give a casting vote in case of a tie and shall sign all orders drawn on the treasurer. He shall appoint a committee on arbitration, to whom all questions at issue between members of this Association shall be referred.

SEC. 2. The vice-president shall, in the absence of the president, perform the duties of his office.

SEC. 3. It shall be the duty of the secretary to attend all meetings, keep accurate minutes of the proceedings thereof, and record the same in a book kept for that purpose. He shall keep an accurate account of the receipts and expenditures of the Association, shall keep on file all bills and such other matters as shall be placed in his possession. His books shall be open at all times to the inspection of any member, and he shall deliver to his successor in office, when duly elected and qualified, all books, papers, etc., belonging to this Association.

SEC. 4. It shall be the duty of the treasurer to collect all money due the Association and pay out the same only on orders drawn by the secretary and signed by the president.

ARTICLE V.

All vacancies shall be filled at a stated meeting by an election by ballot.

ARTICLE VI.

Seven members shall constitute a quorum.

ARTICLE VII.

No more than one person connected with the same or interested in the same laundry, shall be entitled to vote on the same question, and no member who is more than thirty days in arrears for dues shall be entitled to vote.

ARTICLE VIII.

The proprietors or manager of any laundry may become a member this Association by receiving a majority of all votes cast at a regular meeting, paying an initiation fee of three dollars, and signing the constitution and by-laws.

ARTICLE IX.

All resolutions providing for assessments shall be acted upon at a stated meeting and require a majority vote.

ARTICLE X.

SECTION 1. Charges against a member for a violation of these by-laws or any part of them, shall be made in

writing to the committee on arbitration, and the accused party or parties shall be notified in writing by the secretary.

SEC. 2. It shall be the duty of the arbitration committee to investigate and decide all disputes of a financial, mercantile, commercial, or of any other character submitted for its adjudication by members of this Association. It shall have the right to summon witnesses through the secretary, and any member or employe of a member refusing to appear or testify when so summoned, shall be reported by the chairman of the committee to the members of the Association, and the member so refusing may be suspended or expelled at the discretion of the Association.

ALTERATIONS AND AMENDMENTS.

SEC. 3. Alterations and amendments of the constitution and by-laws shall be made only by written resolutions offered and read at a regular meeting and laid upon the table until the next regular meeting for action, and decided by a two-thirds majority of members present.

ARTICLE XI.

No member of this Association will employ a driver of a delivery wagon while in the service of a member of this Association, and not within thirty days after said service has ceased, except with the consent of his last employer.

In case of fire, breakage or accident, trouble with help, whereby a member of this Association needs assistance, members of this Association are to do work for him or them at two-thirds of the adopted price-list during the continuation of said trouble.

No member of this Association will do work for any laundryman not a member of this Association, or for any agent or office which is in arrears to a member of the same.

ARTICLE XII.

The amount of dues shall be $3.00 per year payable in advance. Any member neglecting to pay his dues within thirty days after the expiration of proper time, shall be considered in arrears.

AGREEMENT AS TO PRICES AND COMMISSIONS

The undersigned laundry proprietors doing business in the City of Indianapolis, have this day adopted the following list of prices and commissions:

Shirts	10 to 12½
Shirts, stock work	12½ to 15
Shirts, night	10 to 20
Underwear	8 to 15
Collars and Cuffs	30 cts. per doz.
Socks per pair	5
Handkerchiefs	3 to 5
Shirt waists	15
Vests	15
Coats and Jackets	10 to 25
Duck Trousers	25 to 50

An extra charge of 20 per cent shall be added to this list for all work done in one day.

It is further agreed that no commission in excess of 20 per cent to any agency or branch office, shall be given on above list and that we will not receive or do any work for the so-called laundry soliciting companies or agents. This is not to be construed as interfering with any arrangements that we may have with bona fide offices or agencies, except so far as the commission is concerned.

It is further agreed that any existing contract for a per cent in excess of 20 per cent shall terminate, and shall not be renewed at a per cent in excess of 20 per cent on foregoing list, and that no new contract be entered into from date of this agreement, based on a commission in excess of 20 per cent on this list and no dead head work shall be done for branch offices or agencies, and that all other agreements for a per cent in excess of 20 per cent, shall terminate September 1, 1894.

Penalty for violation of this agreement or any of the by-laws of this Association, shall not be less than $5.00 or more than $50.00, amount to be determined by committee on arbitration, and these fines shall be paid to the treasurer and become a part of the moneys of the Association.

An appeal may be taken from the decision of the committee on arbitration to the Association, and a two-thirds vote shall confirm or reject the decision of the committee on arbitration, which shall be final.

When a member of the committee on arbitration is a party to any controversy before said committee, the president shall appoint another member of this Association in his place, pending settlement of the question at issue.

THE STEAM LAUNDRY

AND ITS METHODS.

BY C. A. ROYCE,

SPRINGFIELD. - - MASS.

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